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2009



Report of the
Commissioner of the
Environment and
Sustainable Development
to the House of Commons

SPRING

Message from the Commissioner

Chapter 1 Protecting Fish Habitat

Chapter 2
Kyoto Protocol Implementation Act





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The 2009 Spring Report of the Commissioner of the Environment and Sustainable Development comprises a Message from the Commissioner, and two chapters. The main table of contents for the Report is found at the end of this publication.

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Office of the Auditor General of Canada 240 Sparks Street, Stop 10-1 Ottawa, Ontario K1A 0G6

Telephone: 613-952-0213, ext. 5000, or 1-888-761-5953 Fax: 613-943-5485

Hearing impaired only TTY: 613-954-8042 Email: distribution@oag-bvg.gc.ca

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Errata

The following are corrections for errors in wording for Chapter 1 Protecting Fish Habitat.

P. 24, case study, first and second sentences should read: Fisheries and Oceans Canada, the Province of British Columbia, local governments, and First Nations agreed to gravel removal from the Fraser River, largely for flood and erosion management. Gravel deposits and the shifting flow of the Fraser River create bars, islands, and secondary channels between Hope and Mission, British Columbia.

P. 25, paragraph 1.41, second sentence of the Fisheries and Oceans Canada's response should read: Fisheries and Oceans Canada currently applies a risk-based approach, but recognizes that opportunities for improvement remain.

P. 27, paragraph 1.53, first sentence should read: In 2005, the Department completed a formal cooperative Memorandum of Understanding (MOU) with Nova Scotia.

The French version of Chapter 1, Protecting Fish Habitat is correct as printed.

Corrections for wording in Chapter 2, Kyoto Protocol Implementation Act:

P. 70, paragraph 2.25, last sentence should read: In addition, the plans do not clearly explain that the reductions attributable to the program on its own may be less when calculated by Environment Canada's model, which **integrates** all of the other measures in the plan.

P. 75, under Scope and approach, second paragraph, third sentence should read:

Federal organizations addressed in this audit included Environment Canada, Natural Resources Canada



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To the Honourable Speaker of the House of Commons:

On behalf of the Auditor General of Canada, I have the honour to transmit herewith my Spring Report to the House of Commons for 2009, which is to be laid before the House in accordance with the provisions of subsections 7(5) of the *Auditor General Act* and 10.1(1) of the *Kyoto Protocol Implementation Act*.

Scott Vaughan
Commissioner of the Environment
and Sustainable Development

To the reader:

I welcome your comments and suggestions on this Report and other issues related to the environment and sustainable development. I can be reached at the following address:

Scott Vaughan Commissioner of the Environment and Sustainable Development 240 Sparks Street Ottawa, Ontario K1A 0G6

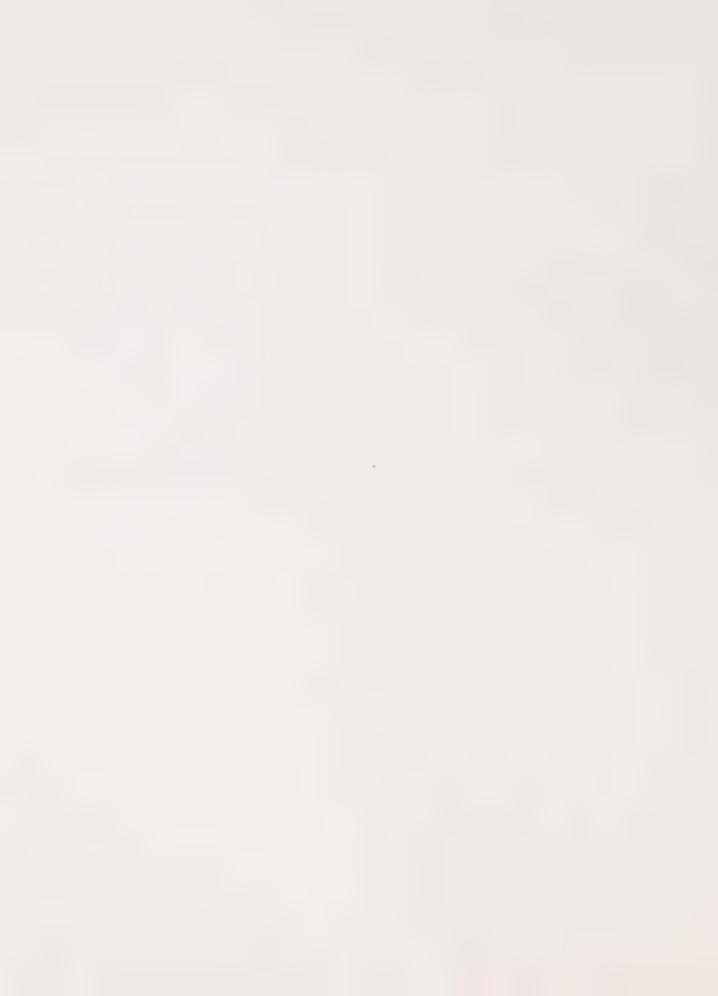
For general questions or comments, please contact Communications at 613-995-3708 or 1-888-761-5953 (toll free).

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Message from the Commissioner of the Development—Spring 2009



Scott Vaughan
Commissioner of the Environment
and Sustainable Development

Message from the Commissioner of the Environment and Sustainable Development—Spring 2009

This Report examines the management of some key elements of two important federal laws: the *Fisheries Act* and the *Kyoto Protocol Implementation Act*. The *Fisheries Act* represents one of the oldest areas of federal responsibility, as set out in the *Constitution Act*, 1867.

Protecting fish habitat—places where fish can spawn, feed, grow, and live—is essential for sustaining fish, providing food and shelter for other aquatic and terrestrial wildlife, contributing to water quality for human consumption, and other uses. Among the key objectives of this Act are to prohibit the harmful alteration, disruption, or destruction of fish habitat and to prevent pollution by prohibiting the deposit of harmful substances into our waters.

The Kyoto Protocol Implementation Act was passed by Parliament in 2007 to "ensure that Canada takes effective and timely action to meet its obligations under the Kyoto Protocol and help address the problem of global climate change." The Act requires the federal government to present annual plans to Parliament, including measures the government will take to reduce Canada's annual emissions of greenhouse gases. Climate change is a global problem. Although the sources of greenhouse gases vary among countries and sectors, climate impacts are likely to include serious and potentially irreversible damage both in Canada and around the world.

Economic dimensions of environmental protection

In 2005, Canada's commercial fishing sector generated \$2.2 billion and employed more than 80,000 people in fishing and fish processing activities. Recreational fishing plays an even larger role, including contributing to Canada's tourism sector. More than 3.2 million Canadians participate in recreational fishing, which in 2005 contributed \$7.5 billion to Canada's economy. Few would now argue that protecting the quality of Canada's lakes, rivers, and marine coastline is not essential to sustaining these important economic benefits.

The economic dimensions of climate change remain a subject of analysis and debate. Many measures associated with reducing greenhouse gas emissions will be costly, as will the impacts of climate change. Examples of climate change impacts could include loss of life, and the destruction of property in low-lying coastal regions due to rising sea levels or more

frequent and severe storms. Economic sectors such as forestry are likely to be affected by changes in water availability, increased frequency of forest fires, and more pest infestations. Climate change is also associated with emerging technologies such as carbon capture and storage and alternative and renewable energy technologies, as well as with emerging carbon markets that could scarcely be imagined even a few years ago. According to a 2008 study by the Bank of Canada, the value of global carbon markets from emissions trading schemes as well as project-related offsets in 2006 was around \$30 billion.

In this report, we examine how the government manages some of its activities under the two Acts. Each of the Acts presents unique challenges. However, the following identifies some cross-cutting or common areas in order for Parliament to compare and contrast the government's track record in supporting the objectives of both federal laws.

Government roles and responsibilities

Both the Fisheries Act and the Kyoto Protocol Implementation Act involve more than one federal department.

While Fisheries and Oceans Canada has primary responsibility for the Fisheries Act, Environment Canada is responsible for a provision of the Act that prohibits depositing harmful substances into waters that provide habitat for fish. Among the findings in chapter 1 of this Report is the absence of formal arrangements between the two departments to coordinate their policies that relate to protecting fish habitat. The Habitat Policy of 1986 stipulates that Fisheries and Oceans Canada should work with Environment Canada to establish federal priorities. However, we found little formal interaction to set priorities, develop common criteria for fish protection, establish expectations relating to the pollution prevention provisions of the Fisheries Act, or maintain formal contact about these issues.

Under the *Kyoto Protocol Implementation Act*, Environment Canada is responsible for preparing the annual climate change plans, with input from other departments—such as Natural Resources Canada and Agriculture and Agri-Food Canada—responsible for specific measures included in the plans. Environment Canada has a process in place to collect information from responsible departments and to obtain sign-offs from them on the information provided in the plans.

State of the environment, or leading environmental indicators

Information that is accurate, comprehensive, and timely helps Parliament know the current state of environmental conditions and, over time, the rate of change in relation to some reference point. In the absence of such basic information, it is difficult to understand annual changes within a broader risk assessment framework.

To know if Canada's Fish Habitat policy is achieving its objective of moving toward an overall increase, or net gain, in fish habitat, information on the state of fish habitat is important. Since the current state of Canada's fish habitat is unknown, the government has no means to determine whether its actions are effective in achieving its obligation under the Policy to produce a net gain in fish habitat. We found that the Department has made little progress on this matter since we reported it in 2001.

By contrast, the government maintains a credible national inventory of Canada's annual greenhouse gas emissions. The design of the inventory is consistent with recommendations set out by the United Nations Framework Convention on Climate Change. According to the national inventory, Canada emitted about 731 million tonnes of greenhouse gas in 2005. Estimated global greenhouse gas emissions for 2005 totalled more than 37 billion tonnes.

Monitoring and measuring the impacts of government action

In order to know whether federal policies and programs are protecting Canada's environment, reliable monitoring systems are needed to track impacts and signal the need for corrective action when measures are not working effectively.

Our audit for chapter 1 of this Report found that Fisheries and Oceans Canada rarely monitors whether proponents of projects that could negatively affect fish habitat comply with the conditions the Department has placed on the projects to allow them to proceed. Prior to setting out conditions, the Department is required to assess the risks to the habitat and the proponent's analysis of habitat impacts. The Department is also required to undertake monitoring to ensure that the required conditions—including conditions to compensate for possible negative impacts—are actually satisfied. However, in 30 projects we found that the Department did not follow the required steps consistently. In no case did the analysis of a project we reviewed contain all of the required information. Overall, we found weak monitoring systems to determine whether the conditions set out for project approval actually led to a net increase or a net loss in fish habitat.

The Kyoto Protocol Implementation Act requires the government to measure the actual reductions in greenhouse gas emissions resulting from each of the measures set out in its plans on an annual basis, beginning in 2008 and ending in 2012, when the Kyoto Protocol reporting period concludes. Our audit work for chapter 2 of this Report found that the government is unable to monitor actual reductions resulting from a number of the measures in its plans. The government acknowledges that it lacks such a monitoring system. We also found problems in how the government explained its projected reduction targets.

A key observation in the chapter is that Environment Canada has overstated the reductions it expects in greenhouse gas emissions for the 2008–12 Kyoto Protocol period. Neither the government nor we can be certain of the actual reductions that will take place between 2008 and 2012. There are many variables that affect annual greenhouse gas emissions, not least the price of energy and the general state of Canada's economy. Given that expected emission reductions are based on estimates in the same manner that economic forecasts are based on estimates, a recurring flaw or shortcoming, noted in chapter 2, is the lack of transparency on the part of the government as to how forecast reductions are calculated.

Enhanced transparency would help Parliament and Canadians determine when projected reductions in emissions are overstated or unduly optimistic.

Much has changed during the 140 years that separate the *Fisheries Act* and the *Kyoto Protocol Implementation Act*. It is increasingly recognized that good environmental management is based on management practices that are transparent and that require accountability. It is also recognized that environmental protection does not represent a kind of stand-alone, isolated, or special-interest action but instead affects and is affected by both economic and social considerations. Indeed, the three pillars of sustainable development—linking economic, social, and environmental considerations—are evident in the matters these two Acts address.

Chapter

Protecting Fish Habitat



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Protecting Fish Habitat

Main Points

What we examined

Healthy habitat—places where fish can spawn, feed, grow, and live—is a fundamental requirement for sustaining fish. Fisheries and Oceans Canada is responsible for administering and enforcing the fish habitat protection provisions of the *Fisheries Act*. This includes reviewing proposed development projects in or near water to ensure that they do not damage fish habitat—or, if habitat loss is unavoidable, that habitat is created elsewhere to compensate. This is the "no net loss" principle of the Habitat Policy. In the 2006–07 fiscal year, Fisheries and Oceans Canada spent \$70 million on activities related to protecting fish habitat.

The pollution prevention provisions of the *Fisheries Act* prohibit the deposit of substances that can harm fish; they can enter habitat in several ways, for example, in municipal wastewater and industrial effluent. These provisions of the Act have been Environment Canada's responsibility since 1978. For the 2008–09 fiscal year, Environment Canada planned to spend \$5.5 million to administer the pollution prevention provisions.

Our audit examined how both departments carry out their respective responsibilities for fish habitat protection and pollution prevention under the *Fisheries Act*. We also looked at their arrangements with others, such as provinces and stakeholders, that support the administration and enforcement of these provisions. In addition, we looked at Fisheries and Oceans Canada's Environmental Process Modernization Plan (EPMP), its continuous improvement plan introduced in 2004.

Our audit work focused mainly on fish habitat in fresh water and estuaries rather than the marine environment.

Why it's important

Fish habitat represents national assets that provide food and shelter for aquatic and terrestrial wildlife and water for human consumption and other uses. For Canada, with over one million lakes and the world's longest coastline, protecting fish habitat is a challenge, given the impact of economic activity and the number of jurisdictions where inland waters and fish habitat are found. The fish habitat protection

and pollution prevention provisions of the *Fisheries Act* are among the federal government's important pieces of environmental legislation, especially as it relates to aquatic ecosystems.

The state of fish habitat is of concern to Canadians who make their living from commercial fishing or who enjoy recreational fishing—industries that together contribute billions of dollars to Canada's economy.

About one quarter of all petitions sent to our Office by Canadians relate to fish habitat issues.

What we found

- Fisheries and Oceans Canada and Environment Canada cannot demonstrate that fish habitat is being adequately protected as the Fisheries Act requires. In the 23 years since the Habitat Policy was adopted, many parts of the Policy have been implemented only partially by Fisheries and Oceans Canada or not at all. The Department does not measure habitat loss or gain. It has limited information on the state of fish habitat across Canada—that is, on fish stocks, the amount and quality of fish habitat, contaminants in fish, and overall water quality. Fisheries and Oceans Canada still cannot determine the extent to which it is progressing toward the Policy's long-term objective of a net gain in fish habitat. There has been little progress since 2001, when we last reported on this matter.
- Fisheries and Oceans Canada has made progress in implementing the Environmental Process Modernization Plan (EPMP) so that it can better manage risks that various projects pose to fish habitat. Under the Plan, the Department does not require that proposals for low-risk projects be submitted to it for review, relying instead on project proponents to voluntarily comply with habitat protection measures and conditions. This streamlining of the review process was intended to free up departmental resources for review of projects that pose a higher risk to habitat. For those projects that it has reviewed, however, the Department has little documentation to show that it monitored the actual habitat loss that occurred, whether habitat was protected by mitigation measures required as a condition for project approval, or the extent to which project proponents compensated for any habitat loss. Moreover, the Department reduced enforcement activity by half and at the time of our audit had not yet hired habitat monitors to offset this reduction.
- Environment Canada has not clearly identified what it has to do to fulfill its responsibility for the *Fisheries Act* provisions that prohibit the deposit of substances harmful to fish in waters they frequent. It has not established clear priorities or expected results for its

administration of the prohibition. Since 2005, departmental initiatives have identified the need for national guidance and coordination in administering the Act's provisions. However, the Department's activities have been largely reactive and inconsistent across the country.

- Environment Canada does not have a systematic approach to addressing risks of non-compliance with the Act that allows it to focus its resources where significant harm to fish habitat is most likely to occur. Further, it has not determined whether the stringent pollution prohibition of the Fisheries Act is being satisfied by the combination of the results achieved from its own activities under both the Fisheries Act and the Canadian Environmental Protection Act, 1999, and those achieved by other levels of government.
- Many of the issues raised in this report are long-standing and have been identified in previous audits that we have carried out. For example, we have previously observed that Fisheries and Oceans Canada had not implemented aspects of the Habitat Policy; that it did not know whether it was progressing toward the ultimate objective of a net gain in fish habitat; and that it needed to devote more time and effort to monitoring compliance with the habitat protection provisions of the Fisheries Act.

The departments have responded. Fisheries and Oceans Canada and Environment Canada agree with our recommendations. Their detailed responses follow each recommendation throughout the chapter.



Introduction

Importance of fish and fish habitat

- 1.1 Fish are an important renewable marine and freshwater resource for Canada. For First Nations, fish are a central part of their culture and a vital food source. For other communities throughout Canada, fish have an economic significance for both commercial and recreational purposes. For example, in 2005
 - the total value of commercial fish landed was \$2.1 billion; 52,805 people were employed in fishing and 29,342 in fish processing; and
 - more than 3.2 million adult anglers participated in recreational fishing, which contributed \$7.5 billion to the Canadian economy.
- 1.2 Fish habitat represents assets that are important not only for fish, but also for human health and recreational use. Healthy habitat—places where fish can spawn, feed, grow, and live—is a fundamental requirement for sustaining fish, providing food and shelter for aquatic and terrestrial wildlife, and contributing to water quality for human consumption and other uses. Canada has more than one million lakes, and nine percent of the country's surface is covered by fresh water. It also has the world's longest coastline, and there are interjurisdictional issues with provinces. Fish habitat is under constant pressure from population growth and urban expansion. Many studies have indicated that damage to habitat is one of the key factors in threats to fish stocks.

The federal role in protecting fish habitat

- **1.3** The federal government is responsible for sea-coast and inland fisheries under the *Constitution Act*, 1867. The *Fisheries Act* contains provisions directed at protecting fish and fish habitat from certain human activity. The two principal sections of the Act examined in this audit are
 - the fish habitat protection provisions that prohibit the harmful alteration, disruption, or destruction of fish habitat; and
 - the pollution prevention provisions that prohibit the deposit of deleterious or harmful substances into waters frequented by fish.
- 1.4 The Minister of Fisheries and Oceans is responsible for the administration and enforcement of the *Fisheries Act*. However, in 1978, the Prime Minister assigned responsibility for the administration of the pollution prevention provisions to the Minister of the Environment. The Minister of the Environment was to introduce new environmental

protection legislation that included water pollution protection, and repeal aspects of the *Fisheries Act* pollution prevention provisions. While the *Canadian Environmental Protection Act*, 1999 provides protection against water pollution, the *Fisheries Act* pollution protection provisions were not repealed.

- 1.5 The 1986 Policy for the Management of Fish Habitat (Habitat Policy) remains the current policy for the protection of fish habitat. The Policy established a long-term objective of a net gain of habitat for Canada's fisheries resources. It also set out policy goals and strategies for the management of fish habitat supporting freshwater and marine fisheries. Environment Canada's administration of the Act's pollution prevention provisions is covered by the Habitat-Policy, but it primarily focuses on Fisheries and Oceans Canada.
- 1.6 The 2001 Compliance and Enforcement Policy for the Habitat Protection and Pollution Prevention Provisions of the *Fisheries Act* (Compliance and Enforcement Policy) applies to both departments. It sets out the general principles for promoting, monitoring, and enforcing the *Fisheries Act* and explains the role of regulatory officials in enforcing the Act.

Habitat Management Program

- 1.7 Under the Fisheries Act, the Minister of Fisheries and Oceans has exclusive responsibility for decision-making authority related to habitat management. Within Fisheries and Oceans Canada, the Habitat Management Program has the primary responsibility for habitat. The Program is a major federal regulator for development projects occurring in, around, or with fresh and marine fish-bearing waters across Canada. It collaborates and works with the Fisheries and Aquaculture Management Sector's Conservation and Protection Program that carries out enforcement and the Science Sector's programs that provide research, scientific advice, monitoring, data management, and products.
- 1.8 The Habitat Management Program also works with other federal departments and agencies and with provinces, territories, municipalities, industry, and conservation groups, as well as consulting with First Nations, on the following objectives:
 - to protect and conserve fish habitat in support of Canada's coastal and inland fisheries resources;
 - to ensure that environmental assessments are conducted under the Canadian Environmental Assessment Act, or other

- environmental assessment regime, before Fisheries and Oceans Canada makes a regulatory decision under the habitat provisions of the *Fisheries Act*; and
- to ensure that the requirements of the Species at Risk Act are met.
- 1.9 The Habitat Management Program is delivered across 6 regions in about 65 offices. From 2004 to 2008, the total number of full-time equivalents decreased from 460 to 430. In the 2006–07 fiscal year, Fisheries and Oceans Canada spent \$70 million on activities related to protecting fish habitat.

Pollution prevention provisions

- 1.10 Environment Canada administers the pollution prevention provisions of the *Fisheries Act* within its existing organizational structure that also supports its other legislative responsibilities, such as the *Canadian Environmental Protection Act*, 1999. It does not have a separate *Fisheries Act* program. The Department's Environmental Stewardship Branch administers the *Pulp and Paper Effluent Regulations* and the *Metal Mining Effluent Regulations* under the *Fisheries Act*'s pollution prevention provisions and is developing regulations for wastewater effluent.
- 1.11 For the 2008–09 fiscal year, Environment Canada planned to spend \$5.5 million and employ about 55 employees to administer the pollution prevention provisions.
- 1.12 Environment Canada's 2008–09 planned spending for the Department's enforcement activities was \$43.1 million, including spending on enforcement activities related to the *Fisheries Act*. As of October 2008, the Department's Enforcement Branch employed 198 enforcement officers. These officers are designated as inspectors under the *Fisheries Act* and are therefore responsible for enforcing the pollution prevention provisions, among other duties related to other legislation.

Previous audits

- 1.13 Our Office has included fish habitat in the scope of previous audits in the following reports:
 - December 1997 Auditor General's Report, Chapter 28, Fisheries and Oceans Canada—Pacific Salmon: Sustainability of the Resource Base

- May 1999 Report of the Commissioner of the Environment and Sustainable Development, Chapter 5, Streamlining Environmental Protection Through Federal-Provincial Agreements: Are They Working?
- October 2001 Report of the Commissioner of the Environment and Sustainable Development, Chapter 1, A Legacy Worth Protecting: Charting a Sustainable Course in the Great Lakes and St. Lawrence River Basin
- October 2004 Report of the Commissioner of the Environment and Sustainable Development, Chapter 5, Fisheries and Oceans Canada—Salmon Stocks, Habitat, and Aquaculture

Focus of the audit

- 1.14 The audit focused on the administration and enforcement of the fish habitat protection and pollution prevention provisions of the *Fisheries Act* and the two policies (Habitat Policy and Compliance and Enforcement Policy) that set out the government's intentions related to these provisions. The audit included the policies, programs, and activities of Fisheries and Oceans Canada and Environment Canada, and the arrangements with provinces and stakeholders that support the administration and enforcement of these provisions. The audit largely focused on the protection of fish habitat in fresh water and estuaries rather than the marine environment.
- 1.15 More details on the audit objective, scope, approach, and criteria are in **About the Audit** at the end of this chapter.

Observations and Recommendations

Protecting fish habitat

- 1.16 Fisheries and Oceans Canada's principal activity in the protection of fish habitat involves the review of proposals for projects, in or near water, that are sent to the Department by those carrying out the projects. These reviews are intended to determine whether the projects will result in damage to fish habitat and, if so, whether the projects can be amended to avoid the damage. The Department conducts project reviews under the 1986 Habitat Policy's "no net loss" guiding principle, striving to balance unavoidable habitat losses with habitat replacement, on a project-by-project basis.
- 1.17 We looked at how Fisheries and Oceans Canada reviews these projects and monitors compliance with the project approval terms.

We also reviewed how the Department enforces the habitat protection provisions of the *Fisheries Act*. We reviewed the Department's implementation of the Environmental Process Modernization Plan, a continuous improvement plan aimed at improving efficiency, effectiveness, transparency, timeliness, and consistency of delivery of the Habitat Management Program. We also looked at the Department's collaboration with provinces, industry, and conservation groups.

1.18 The Habitat Policy provides direction, mainly to Fisheries and Oceans Canada, on how to administer and enforce the fish habitat protection provisions (section 35) of the *Fisheries Act*. We looked at whether the Department could demonstrate that it is making progress toward the Habitat Policy's long-term objective of an overall net gain in habitat. Finally, we reviewed the Department's overall progress in implementing the Habitat Policy.

Fisheries and Oceans Canada needs to improve its quality assurance system for project referrals

- 1.19 The Habitat Policy provides guidance in dealing with project proposals that are referred to Fisheries and Oceans Canada for review to determine whether changes to fish habitat are likely to occur if a project proceeds as proposed. Department staff reviewing proposals may make recommendations to alter project designs to mitigate potential impacts to habitat by issuing a Letter of Advice to project proponents. The proponent is responsible for redesigning or relocating the project so that the mitigation objective is met.
- 1.20 Based on departmental experience, about 10 percent of projects assessed by the Habitat Management Program will have harmful effects on fish habitat. If damage to fish habitat cannot be avoided, a *Fisheries Act* authorization—a ministerial permission to harm habitat—may be issued. This allows the project to proceed but triggers an environmental assessment, which ultimately results in a report and a recommendation on whether or not the project should proceed, with a proposed mitigation and follow-up program.
- 1.21 We expected to find evidence in the project files that project reviews are conducted, documented, and reviewed for quality assurance to ensure that project risks were being assessed and that decisions made by departmental staff on project referrals were consistent and predictable. Without good-quality assurance controls, there is a risk that projects could be approved that may cause more harm to habitat than authorized, mitigation measures may be inadequate, and compensation for damaged habitat may be insufficient.

Project proponent—A person or organization planning a project that may affect fish habitat.

Environmental assessment—An assessment that, under the Canadian Environmental Assessment Act, may be one of four different types—a screening, a comprehensive study, mediation, or a panel review; the type of assessment varies depending on the project's, size, complexity, and environmental impacts.

- 1.22 We examined the Department's project referral processes by randomly selecting a sample of 16 ministerial authorizations and 30 projects in which letters of advice were issued. The sample was chosen in the 2007–08 fiscal year from a total population of 267 ministerial authorizations and 4,514 projects that resulted in a Letter of Advice. We found weaknesses in the Department's documentation and review of projects.
- 1.23 Required review processes. Our review of ministerial authorizations indicated that while there was much project-related information in the files, documentation required by departmental policies was often not found, such as
 - identification of the project's potential impact on fish habitat;
 - risk assessments of the impacts on habitat to determine their significance (for example, only 25 percent of the files we reviewed contained documentation on risk assessment);
 - the Department's assessment of a proponent's analysis of habitat impacts;
 - reasons why the Department required additional mitigation measures; and
 - monitoring plans on mitigation measures and documentation of compensatory work prepared by the proponents.
- **1.24** For the 30 projects we reviewed that received letters of advice, we found that required steps were not followed consistently. None of the project files we reviewed contained all of the information that the Department requires to assess a project. For example, there was no documentation of how mitigation measures were arrived at in 27 (90 percent) of the project files.
- 1.25 Compensation plans. All authorizations we reviewed required habitat compensation (enhancement or creation of habitat to offset damage to existing habitat). Compensation is required to result in no net loss of habitat under the Habitat Policy. Proponents are required to provide the Department with the compensation plans that result from the review under the Canadian Environmental Assessment Act. Department staff must review the plan and include it in the project file before issuing a ministerial authorization. In our review of 16 authorizations, we found that 4 projects were issued ministerial authorizations without the required compensation plans on file.
- **1.26** For the 12 authorizations with compensation plans on file, 3 of the proponents' compensation plans had not been developed at the time the authorization was issued. For the other 9 authorizations

with compensation plans on file, 4 of these plans did not include the required detailed measures to compensate for habitat loss. Without these measures, the Department cannot properly evaluate whether the compensation was appropriate.

- 1.27 As mentioned earlier, the Habitat Management Program has the primary responsibility for habitat. The Program reviews major natural resource and industrial development projects, such as mines, hydroelectric, and infrastructure projects. The Minister may authorize a major project, even if there are large-scale losses of fish habitat, if it is believed that the project is in the best interests of Canadians because of socio-economic implications. The Department advised us that it is currently developing a policy that addresses large-scale habitat loss. This policy would clarify the approach for projects that are unlikely to achieve no net loss and would help to ensure transparency and consistency in decision making.
- 1.28 Key aspects of quality assurance. We looked at the guidance the Department provides to its staff. The Fisheries Act, the Habitat Policy, the Department's Risk Management Framework, and the project referral system all establish controls for the review and approval of projects, with the goal of no net loss to fish habitat. Staff use the Risk Management Framework to review the information and assess the project's risk, mitigation measures, and compensation plans for addressing unavoidable habitat damage.
- 1.29 Other than operational statements, which are used for the lowest-risk projects, we found that the Department does not have detailed guidance to help staff assess the proposed mitigation measures and make consistent decisions for similar projects. This guidance, together with random file reviews to ensure that guidance is being followed, would be a key element of a quality assurance system.
- We also found that there is no national guidance on what compensation ratio to use under various habitat conditions or how to calculate habitat negatively affected. A compensation ratio is intended to make up for habitat that will be damaged during a project by having a proponent build or create compensatory habitat on a particular ratio, such as one-for-one or greater.
- 1.31 We found that the regions use different methods and elements to calculate the impact and determine the compensation ratio. For example, one region uses a simple calculation of the area affected, another uses a percentage of area deemed to be high-quality habitat, and another uses an estimate of affected habitat's productivity based

Operational statements—Guidelines that describe the conditions and measures to be maintenance dredging in marine waters

on the pounds of fish per unit of habitat. Similarly, the compensation ratios vary. The Maritimes Region uses a compensation ratio of 3 to 1, while other regions use a 1-to-1 ratio. In some cases, it was not possible to determine the ratio used.

- 1.32 Lack of guidance and file reviews. Our review of project files found a lack of documentation, a lack of compliance with departmental controls, and varying approaches by the regions. The Department has several elements of a quality assurance system for project referrals—the Habitat Policy, a Risk Management Framework, and standard operating policies that consist largely of practitioners' guides and operational statements. However, it also needs to develop more guidance and carry out periodic reviews of project files to ensure that documentation is in place and controls are being applied.
- 1.33 Recommendation. In order to make consistent decisions on project referrals, in accordance with departmental expectations, Fisheries and Oceans Canada should ensure that an appropriate risk-based quality assurance system is in place for the review of these decisions.

Fisheries and Oceans Canada's response. The Department accepts this recommendation. Over the past number of years, Fisheries and Oceans Canada has made efforts to improve the quality, consistency, and transparency of its decision making by implementing the Risk Management Framework. Although much progress has been made, the Department recognizes that there is still much work to be done with respect to documentation standards. With that in mind, by 31 March 2010, Fisheries and Oceans Canada will implement a risk-based quality assurance system to verify that documentation standards are being applied consistently by staff.

There is little monitoring of compliance and evaluation of effectiveness

- 1.34 The Habitat Policy states that proponents may be required to carry out follow-up monitoring on the effectiveness of habitat mitigation and compensation activities established as a condition of project approval by Fisheries and Oceans Canada.
- 1.35 To ensure that proponents meet the requirements of the Habitat Policy, the Habitat Management Program has two ways for the Department to evaluate proponents' activities and its decisions (ministerial authorizations and letters of advice):
 - monitoring of the proponent's compliance with terms and conditions attached to the approval to proceed (including monitoring mitigation and compensation work); and

- follow-up monitoring at a later date to assess the effectiveness in achieving no net loss of fish habitat.
- **1.36** We reviewed the Department's monitoring efforts and expected it to use a risk-based approach to monitor projects. In our past audits, we identified a number of problems with monitoring activities and made recommendations for improvements.
- 1.37 In our review of 30 project referral files involving letters of advice, we found little or no evidence of compliance monitoring, as required by departmental guidance. We also found little documentation to show that the Department is assessing
 - what habitat was lost in development projects,
 - · whether required mitigation measures protected habitat, and
 - whether project proponents are compensating for lost habitat by developing new habitat.
- 1.38 Proponents are normally required to carry out project monitoring activities, and the Department may monitor projects directly or rely on monitoring by the proponent. We found that the Department does not have a risk-based approach to monitoring proponents' compliance with the terms and conditions of ministerial authorizations and letters of advice. For example, we found that proponents had carried out the required monitoring in only 6 of 16 (38 percent) sample items involving ministerial authorizations and 1 of 30 sample items involving letters of advice. Further, the Department directly monitored the proponent's compliance in only one of the cases we reviewed. We found no documentation to show that the Department had followed up or evaluated the effectiveness of its decisions—that is, whether implementing the conditions of the ministerial authorizations or letters of advice had resulted in no net loss of habitat.
- **1.39** At the time of our audit, the Habitat Management Program was implementing a Habitat Compliance Decision Framework to provide a nationally consistent approach to monitoring projects. The regions were at various stages of implementation, and none had fully implemented the Framework.
- 1.40 The Department does not have a systematic approach to monitoring proponents' compliance with the conditions of its project approvals. Nor does it evaluate whether its decisions on mitigating measures and compensation are effective in meeting the no net loss

principle. As a result, projects may be causing damage to habitat beyond the amount authorized, and mitigating measures and compensation may not be effective (see the case study below).

Fraser River Gravel Removal Plan Agreement

Project proposal. Fisheries and Oceans Canada, the Province of British Columbia, local governments, and First Nations agreed to gravel removal from the Friseur River, largely for flood and erosion management. Gravel deposits and the shifting flow of the Friseur River create bars, islands, and secondary channels between Hope and Mission, British Columbia. This area has high-quality habitat for at least 28 species of fish. The Department determined that gravel removal was harmful to fish habitat.

In 2004, the Department signed a Letter of Agreement with the Province of British Columbia to develop a five-year Gravel Removal Plan. Numerous project proponents (companies interested in removing gravel and selling it) submitted proposals to the Department, A number of ministerial authorizations have been issued and continue to be issued.

The following information provides examples of the Department's approach to approving and monitoring these proposals and highlights some of the challenges it faces in implementing the Habitat Policy.

Flood control. Engineering and scientific studies at different sites, some commissioned by the Department, concluded there was no reduction in the flood profile after gravel removal. These studies stated that changes in the flood profile were minimal in the removal area and were local to the removal site. Thus, gravel removal would not significantly affect the potential for flooding.

Damage to sensitive habitat. Projects in areas that are sensitive habitat for both salmon and sturgeon are high risk, but adequate information on fish stocks to assess project impacts was lacking for a number of the ministerial authorizations for gravel removal. In 2006, improper construction of a causeway for accessing one gravel removal site resulted in a side channel downstream drying up, exposing salmon nests and resulting in the loss of up to 2.25 million pink salmon.

Lack of compensation plans. The ministerial authorizations did not include compensation plans. The Department believes that compensation plans are not required on the assumption that new gravel will replace gravel removed over one to three spring runoffs. We found no documentation in the project files to support this position for large gravel removals, although there is evidence to the contrary. For example, 300,000 tonnes of gravel were mined from Foster Bar in 1995, but it has not been replaced to date. The Department advises us that the requirement for habitat compensation will be reviewed as part of the renegotiation of the 2004 Letter of Agreement, using the results of post-construction monitoring studies, lessons learned from removals under the 2004 agreement, and contemporary research.

Lack of monitoring. Although proponents are required to submit monitoring plans and surveys, there were few on file. These documents specify the conditions prior to gravel removal, during removal, and after removal, as required under the terms of the 2004 Letter of Agreement.

Lack of enforcement. The Department did not take enforcement action after a proponent failed to comply with the conditions of a ministerial authorization by exceeding the volume of gravel allowed to be extracted, destroying habitat, and mining outside the approved area. We could not find documentation to support the Department's lack of enforcement action. The Department advised us that it was short of resources at the time of the proponent's actions and that it is considered too late to pursue charges.

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1.41 Recommendation. Fisheries and Oceans Canada should accelerate the implementation of its Habitat Compliance Decision Framework to ensure that there is an adequate risk-based approach to monitoring projects and providing assurance that proponents are complying with the *Fisheries Act* and all terms and conditions of departmental decisions. The Department should also determine whether the required mitigation measures and compensation are effective in meeting the no net loss principle.

Fisheries and Oceans Canada's response. The Department accepts this recommendation. Fisheries and Oceans Canada currently applies a reestablished approach, but recognizes that opportunities for improvement remain. Once the Habitat Compliance Modernization initiative is fully implemented, the Department will be able to provide better assurance that proponents are complying with the terms and conditions of the Department's decisions. Considering this, the Department commits to fully implement the Habitat Compliance Decision Framework and report on results of project monitoring activities by 31 March 2010 and annually thereafter.

Fisheries and Oceans Canada will continue to work with proponents to design and implement follow-up monitoring studies. Between now and the end of 2011, the Department will review and develop standard scientific methodologies to examine the effectiveness of compensation in achieving the no net loss guiding principle so that these methodologies can be used by proponents when designing monitoring studies.

Enforcement decisions need to be better documented

- 1.42 We reviewed the Department's approach to enforcement to determine if it could demonstrate that it was inspecting and investigating those suspected of violating section 35 of the Fisheries Act. The requirements and general procedures for habitat-related enforcement are found in the Habitat Policy and its associated Compliance and Enforcement Policy.
- 1.43 We expected enforcement of the habitat protection and pollution prevention provisions to be carried out in accordance with the Compliance and Enforcement Policy through inspections, investigations, issuance of warnings and directions by inspectors, and court actions. Notably, the Policy does not require documentation of most of these actions.

Occurrence—Information or a complaint that is logged in the Departmental Violation System. Whether the *Fisheries Act* has been violated can only be determined when the complaint or information is investigated.

- 1.44 The Conservation and Protection Program is part of the Fisheries and Aquaculture Management Sector, and habitat protection is only one of the Program's ten areas of activity. As a result, it spends more time nationwide on fisheries-related compliance issues.
- 1.45 We selected a random sample of 15 fish habitat occurrences recorded in the Departmental Violation System (DVS) in the 2007–08 fiscal year. We reviewed the sample items to determine if they complied with the Compliance and Enforcement Policy.
- 1.46 Lack of documentation. Overall, there was a lack of documentation in the files we reviewed. For example, for three cases of possible violations of subsection 35(2) of the Fisheries Act, the assessment of the violations and the factors considered to achieve the desired result with the alleged violator were not documented. A verbal warning was issued for one of the files we reviewed, but there was no documented acknowledgement by the alleged violator and no documentation of follow-up monitoring to ensure that corrective action requested in the warning was actually carried out. In one case, Habitat Management Program staff recommended that the Conservation and Protection Program proceed with charges against the alleged violator. No charges had been laid at the time of our audit, which was more than one year after the occurrence.
- 1.47 Enforcement. Due to the lack of documentation for the DVS files we reviewed, we could not determine whether the Department is following the Compliance and Enforcement Policy. We could not find evidence of what, if any, actions the Department had taken to inspect or investigate alleged violations or what enforcement actions it had taken. A quality assurance system for enforcement, including establishing appropriate procedures, documenting decisions, and periodically reviewing violation files would allow the Department to demonstrate that its decisions are made in accordance with departmental policies and expectations.
- 1.48 Recommendation. Fisheries and Oceans Canada should ensure that its enforcement quality assurance and control processes are sufficient to demonstrate that its actions have been taken in accordance with the Compliance and Enforcement Policy. The Department should provide guidance on the type of complaints that fishery officers should respond to and take action on, and the Department should specify minimum documentation requirements for occurrences.

Fisheries and Oceans Canada's response. The Department accepts this recommendation and, by 31 August 2010, will establish,

disseminate, and communicate to regions an operational protocol to ensure better documentation of enforcement actions and monitoring of activities to ensure consistency with the Compliance and Enforcement Policy.

Guidance on the nature of complaints that warrant the attention of fishery officers has also been identified as a need by the Department. By 31 March 2011, the Department will examine the process currently in use and, by 31 March 2012, the Department will examine the Habitat Compliance Decision Framework to improve its guidance to staff, clarify documentation protocols, and establish minimum documentation standards for occurrences.

Modernization of the Habitat Management Program is progressing

- In 2004, the Department created the Environmental Process Modernization Plan (EPMP), which was part of a series of continuous improvement initiatives. The EPMP focused on key elements in modernizing the Habitat Management Program, including streamlined reviews of low-risk activities, strengthened partnership arrangements, and modernization of habitat compliance.
- We reviewed the Department's progress in implementing the EPMP by reviewing departmental policies, procedures, and documents; analysing referral totals by year; and reviewing project files. We expected the Department to have fully implemented the EPMP into the Habitat Management Program and to have adjusted the EPMP accordingly to reflect implementation experience.
- The Department has implemented parts of the EPMP but has made little progress in some areas—in particular, the Habitat Compliance Modernization initiative, which was introduced in 2005.
- Streamlining. The Department developed operational statements to streamline its review of projects so that it could focus its reviews on higher-risk projects. The statements, available on its Internet site, outline measures and conditions to avoid harming habitat in order to comply with subsection 35(1) of the Fisheries Act. Project proponents who comply with the statements do not have to submit their proposal for review by the Department. The implementation of the EPMP is one of the contributing factors that has led to a decrease in referrals from 13,234 in the 2003-04 fiscal year to 7,333 in 2007-08.
- 1.53 Partnering arrangements. In 2005, the Department completed a formal cooperative Memorandum of Understanding (MOU) with Nova Scatty. The provinces of British Columbia, Prince Edward Island,

and Manitoba already had agreements in place. These agreements outline collaborative work with the provinces to carry out activities related to protection of fish habitat. The Department has also signed agreements with industry groups and non-governmental conservation organizations.

- 1.54 Modernization of habitat compliance. The Department decided to move the focus of the Habitat Management Program from enforcement, which is largely reactive in responding to complaints, to compliance promotion, such as communication and publication of information, public education, consultation with stakeholders, and technical assistance. The Department advised us that most activity of the Conservation and Protection Program related to habitat issues is determined by the level of risk associated with habitat occurrences that are assessed by habitat managers.
- 1.55 As a result of the new direction, the Conservation and Protection fishery officers have spent significantly less time on habitat-related enforcement matters—from 78,057 hours in 2003 to 38,249 hours in 2007 (a percentage decrease of total time from 6.4 percent to 3.3 percent). The Department advised us that this reduction is largely due to the Department's decision to move to a new habitat compliance strategy. In 2004, the number of fishery officers in the Central and Arctic Region was reduced from 56 to 24, and officers in the Pacific Region were directed to focus more on enforcement of other matters and less on habitat issues.
- 1.56 The Department implemented a National Habitat Compliance Protocol to clarify the roles, responsibilities, and accountabilities of the Habitat Management Program and the Conservation and Protection Program. Habitat monitors, staff who would work in the Habitat Management Program on both compliance promotion and enforcement, were to be engaged and carry out much of the work being done by fishery officers. Although originally planned for 2006, the hiring of habitat monitors was still in progress during our audit.
- 1.57 Compliance promotion. We found that the Department's compliance promotion is limited and that it has no overall strategy for this activity. As a result, it has not realized an improvement in habitat conservation and protection through increased compliance promotion and risk-based strategies for monitoring and enforcement.
- 1.58 Implementation progress. The Department has made progress in implementing the EPMP so that it can better manage its risks. However, we noted that some elements, such as Habitat Compliance

Modernization, are not yet fully implemented. The Department has identified future needs for the EPMP, including consultation, partnering and accountability for agreements, and a formal evaluation of the EPMP. These initiatives have to be incorporated fully into the Habitat Management Program before the Department can confirm that the Program is being risk-managed.

Accountability in agreements is weak

- 1.59 The Habitat Policy calls for cooperation by encouraging and supporting involvement by government agencies, public interest groups, and the private sector to conserve, restore, and develop fish habitat. In the delivery of its Habitat Management Program, the Department relies on the support of and input from a number of internal and external groups. Without their help, the Department would need more resources to deliver its mandate.
- **1.60** The Department is required, through inter-agency cooperative agreements, to participate in the provincial project review systems and in provincial environmental assessment reviews for projects.
- 1.61 Jurisdictional responsibilities over water matters are complex as the provinces have many responsibilities in this area. Provincial water powers include flow regulation, authorization of water use development, water supply, pollution control, thermal and hydroelectric power development, and agriculture and forestry practices.
- 1.62 The responsibility for inland fisheries (for example, fishing licences and limits) has been delegated to the provinces, but the federal government has retained the responsibility for habitat. Fisheries and Oceans Canada relies on provincial government programs to administer some of its fish habitat protection responsibilities. Habitat agreements are in place with four provinces, but implementation of the agreements varies considerably by province.
- 1.63 As provincial officials are designated as fishery officers by the Department, we expected an appropriate accountability framework to be in place that includes the delivery of reports to the federal government on the status of habitat, enforcement actions taken, and monitoring carried out.
- 1.64 We found that Fisheries and Oceans Canada has made progress in working with stakeholders to identify development practices that reduce the potential for impact on fish habitat and promote compliance with the Fisheries Act. The Department has also worked with environmental

groups, including those on the Canadian Environmental Network, to engage them in improving the delivery of its desired results.

- 1.65 For example, since 2001, the Department has developed agreements with 36 conservation authorities in Ontario to help deliver the habitat program. The authorities do this by, for example, reviewing project referrals (most of the low-risk files) and issuing letters of advice on the Department's behalf.
- 1.66 We found that there are weaknesses in the oversight process for the agreements with Ontario conservation authorities. The agreements have few accountability mechanisms, such as performance measures, audit provisions, or formal evaluation requirements. Thus, there is no formal means for the Department to know if the assigned activities have been carried out according to its policies and guidelines. While the agreements state that the Department is responsible for reviewing the letters of advice prepared by conservation authorities, we found that the Department did not receive copies of these letters to review.
- 1.67 In our 2001 audit of the Great Lakes Basin, we recommended that the Department develop suitable accountability arrangements with its partners—notably the provinces and others it relies on to achieve the objectives of the *Fisheries Act*.
- **1.68** These issues from seven years ago still remain and they are relevant to the Habitat Management Program today.
- 1.69 Recommendation. Fisheries and Oceans Canada should clarify the parts of the Habitat Management Program that it will continue to administer, the extent that it wants others to deliver the program on its behalf, and the resource implications. The Department should also assess whether accountability mechanisms in all of its existing agreements are working effectively enough to report and assess the results achieved through its collaboration with others. In addition, it should review the agreements to ensure that they are aligned with its view of the long-term goals of the Habitat Management Program.

Fisheries and Oceans Canada's response. The Department accepts this recommendation and, by 31 March 2011, will have reviewed and evaluated its memoranda of understanding with provinces and territories. The Department will continue to work with its partners to strengthen the governance and accountability mechanisms and ensure that the partnership arrangements are aligned with the Department's goals and its strategic vision.

Habitat loss or gain is not being measured

- 1.70 The approach under the Habitat Policy is to achieve no net loss of habitat on each project and, together with habitat restoration and development, achieve a gain in habitat overall. We expected that Fisheries and Oceans Canada would be collecting and analyzing habitat data to determine whether it is achieving the Policy's objective of a net gain in habitat.
- 1.71 Measuring aspects of habitat is a complex process. In our past audits, we recommended that Fisheries and Oceans Canada collect and analyze information to provide up-to-date assessments on habitat conditions. In this current audit, we found no significant improvement in the quantity and quality of information on fish habitat. The Department lacks information on fish stocks, quantity and quality of fish habitat, contaminants in fish, and overall water quality.
- 1.72 Provinces and other government agencies, First Nations, and stewardship groups collect habitat information in discharging their responsibilities. There continues to be no simple access to current and complete data, and key technical data for many watersheds is lacking. As a result, the Department lacks the scientific information needed to establish a baseline for the state of Canada's fish habitat. To address this, the Department has begun a project to access habitat databases managed by others to more easily gather habitat information. However, establishing national baseline data for habitat remains a challenge.
- 1.73 The Department can also use indicators of habitat quality, such as water quality, water flow, and fish stock data, to arrive at an assessment of the quality of habitat in select ecosystems. Ecosystems to be reviewed could focus on those with significant human activity as the Department cannot regulate natural changes to habitat. However, the Department has not made much progress in developing such indicators. The Department's ongoing challenges in collecting data and selecting habitat indicators means that it still does not know whether it is progressing toward the Habitat Policy's long-term objective of a net gain in fish habitat.
- 1.74 Recommendation. Fisheries and Oceans Canada should develop habitat indicators to apply in ecosystems with significant human activity. The Department should use these indicators to assess whether it is making progress on the Habitat Policy's long-term objective to achieve an overall net gain in fish habitat.

Fisheries and Oceans Canada's response. The Department accepts and agrees with this recommendation and is committed to moving toward an ecosystems approach and the increased use of biological

indicators, particularly in areas of significant human activity. However, this task is far from trivial as it will require significant new scientific understanding to ensure that the indicators adopted do in fact tell us what we need to know about the health of the aquatic ecosystem.

The Habitat Policy is not fully implemented after 23 years

- 1.75 We expected that Fisheries and Oceans Canada would have substantially implemented the Habitat Policy. Without such implementation, unmanaged human activity could result in further decline of fish habitat, fish stocks, and the benefits derived by Canadians from both.
- 1.76 In our October 2001 Report, we noted that 15 years had passed since the Habitat Policy was adopted and that it had not been fully applied. In our current audit, we found that the Department had implemented parts of the Policy, but progress in some areas did not advance as expected.
- 1.77 For example, the Policy indicates that the Department is to ensure a uniform and equitable level of compliance with statutes, regulations, and policies. However, as noted earlier, the Department cannot demonstrate that projects it reviews have been adequately assessed on a consistent basis, as required by the Habitat Policy. It needs to carry out better compliance monitoring and effectiveness evaluation—other key elements required under the Policy.
- 1.78 Research. The Habitat Policy also requires the Department to conduct scientific research to provide the information and technology necessary for the conservation, restoration, and development of fish habitat. In 2001, we reported that the Department lacked scientific information that it needed to carry out its mandate effectively, including information on the quality of fish habitat. According to the Department, implementation of an ecosystem science approach is in the early stages, and assessment of habitat is not yet possible. It notes that data does not exist for many aquatic habitat features, or available information may not be organized in ways that allow staff to access it efficiently and systematically.
- 1.79 To address these gaps, the Department advised us that it has a five-year research plan to address the impact from human activities. External to government, there are recently formed Centres of Expertise that study the impacts of hydro and of oil and gas on habitat, and a new Centre of Expertise is being created to provide science support to the Habitat Management Program. In addition, Ecosystem

Ecosystem science approach—An approach to science that focuses on identifying and

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Research Initiatives, whose objective is to deploy an ecosystem science approach, were recently established in seven areas across the country.

1.80 Recommendation. Fisheries and Oceans Canada should determine what actions are required to fully implement the 1986. Habitat Policy and confirm whether it intends to implement all aspects of the Policy.

Fisheries and Oceans Canada's response. The Department accepts this recommendation and, by March 2010, will determine what actions are required to fully implement the Habitat Policy.

Pollution prevention provisions

Deleterious substances—Substances that are directly or indirectly harmful to fish and that can take many different routes to enter the aquatic environment. Examples of sources of these substances include municipal wastewater, industrial effluent, agricultural run off, urban and natural resource development, landfills, and ahandoned mines

- 1.81 The pollution prevention provisions of the *Fisheries Act* prohibit all deposits of deleterious substances into waters frequented by fish. This type of prohibition has been a part of the *Fisheries Act* since its enactment in 1868. The only exception to this general requirement is when harmful deposits are authorized by regulations under the Act.
- **1.82** Six regulations are currently in force under the *Fisheries Act's* pollution prevention provisions. These regulations allow deposits of specific harmful substances from the regulated industry within specific discharge limits.
- **1.83** Environment Canada has been responsible for the administration of the pollution prevention provisions of the *Fisheries Act* since 1978. Environment Canada administers the Act within its existing organizational structure and processes that also support its other legislative responsibilities, such as the *Canadian Environmental Protection Act*, 1999. It does not have a separate *Fisheries Act* program.

Accountability for addressing Fisheries Act responsibilities is lacking

- **1.84** We focused on Environment Canada's processes for determining how it fulfills its *Fisheries Act* responsibilities. We expected to find the following two conditions:
 - Environment Canada has clearly identified what it must do to meet its *Fisheries Act* responsibilities, including establishing results expectations and appropriate accountability arrangements for delivering those responsibilities.
 - Environment Canada has identified and assessed the risks associated with substances that are harmful to fish, developed and implemented compliance strategies to manage significant risks, and regularly updated approaches to mitigate or address risks.

The following paragraphs present our findings related to these expectations:

- **1.85** Results expectations. Environment Canada has not established clear objectives or results expectations for meeting its *Fisheries Act* responsibilities.
- 1.86 Environment Canada has identified its priorities for administration of the Fisheries Act in its 2008–2009 Report on Plans and Priorities (RPP). Its RPP points to the Pulp and Paper Effluent Regulations (about 115 mills are subject to these regulations), Metal Mining Effluent Regulations (about 100 mines are subject to these regulations), development of new regulations for wastewater effluent, and enforcement of the Act as its priorities.
- 1.87 Environment Canada has not clearly established what it plans to achieve with its main *Fisheries Act* responsibility—ensuring compliance by industries and activities with the Act's prohibition against the deposit of harmful substances in water frequented by fish (the Department estimates that this could apply to hundreds of thousands of organizations or individuals).
- 1.88 Administration of the Act's prohibition requirement. In 2005, Environment Canada established a *Fisheries Act* working group to develop and implement a national approach for administering the Act's prohibition against the deposit of harmful substances in water frequented by fish. The working group identified nine national priorities and additional regional priorities (sectors, industries, or activities) where water pollution issues should be addressed through administering the Act's prohibition requirement. The working group recommended a plan of action to address these priorities. It has not met since 2006, and no one is clearly assigned the responsibility for action on the issues identified.
- **1.89** Further, the working group observed that Environment Canada's focus was on its administration of the *Canadian Environmental Protection Act*, 1999 and that the Department no longer had the management structure to administer the *Fisheries Act*.
- 1.90 In November 2007, Environment Canada officials reviewed the working group's findings and did further analysis to identify challenges with administering the pollution prevention provisions. It identified specific challenges faced by the Department in ensuring compliance with the *Fisheries Act* prohibition requirement, including a lack of clear priorities, difficulties in determining compliance, and reactive activities, with inconsistent responses across regions and across sectors.

- 1.91 No further coordinated action was taken on these departmental initiatives, leaving Environment Canada without a national approach to provide coordination, focus, and guidance on administration of the Act's prohibition requirement.
- **1.92** Environment Canada has not clearly identified what it has to do to meet its *Fisheries Act* responsibilities, including establishing results expectations and appropriate accountability arrangements for delivering those responsibilities.
- **1.93 Recommendation.** Environment Canada should set out clear objectives and results expectations for its *Fisheries Act* responsibilities, and establish accountability for achieving the desired results, including providing national coordination and guidance on the administration of the Act.

Environment Canada's response. The Department accepts this recommendation and will put in place a Results-based Management and Accountability Framework in 2009–10 for Environment Canada's Fisheries Act responsibilities. The framework will clearly identify the objectives, responsibilities, and expected results, including how national coordination and guidance on Environment Canada's administration of the Act will be provided.

- 1.94 Compliance strategy. We expected to find that Environment Canada had developed and implemented a compliance strategy to address significant *Fisheries Act* responsibilities. A compliance strategy would address areas of greatest risk to fish habitat based on integrated information gathering and the use of scientific knowledge. It would then set departmental priorities for using tools such as compliance promotion, education, promotion of technology development, and targeted enforcement to increase rates of compliance.
- **1.95** Environment Canada has a compliance strategy, environmental effects monitoring, and an enforcement plan in place for each of the two regulations it actively administers and enforces—the Pulp and Paper Effluent Regulations and the Metal Mining Effluent Regulations.
- 1.96 However, Environment Canada does not have a Fisheries Act compliance strategy for the industries and activities that must comply with the Act's prohibition requirement against the deposit of harmful substances in water frequented by fish. The Department informed us that the number of parties potentially subject to the Act's prohibition requirement numbers in the hundreds of thousands. The size of this population represents a challenge in developing a compliance strategy

Environmental effects monitoring—Activity that assesses the aquatic ecosystems downstream from the site of effluent discharge to determine the impacts of the effluent on fish and the aquatic environment over the long term.

and setting priorities for the use of compliance promotion and enforcement resources.

- 1.97 Environment Canada has not instituted an overall risk-based approach to the *Fisheries Act* to identify, assess, and address risks of non-compliance with the Act that could result in significant harm to fish habitat. The use of risk-based methodologies would allow the Department to focus its resources on those areas where significant risks to fish habitat are highest and ensure that they are adequately addressed in a consistent manner.
- 1.98 The absence of a risk-based approach to the *Fisheries Act's* prohibition requirement also hampers the ability of the Department's Enforcement Branch to plan its enforcement activities based on significant risks to fish habitat identified by the Department. The 2008–2009 National Enforcement Plan reflects a largely reactive approach, based on complaints, to the Act's prohibition requirement. However, the Plan does include planned inspections for some cruise ships, fish plants, and abandoned mines.
- 1.99 Identification of substances harmful to fish. We expected to find that Environment Canada had identified and assessed the risks associated with substances that are potentially harmful to fish and incorporated this information into its decision-making processes. We found that many sources of pollution that are harmful to fish are known to Environment Canada, but that information is incomplete and, in the absence of a compliance strategy for the Fisheries Act prohibition requirement, the Department is not using information that it does have to its full potential.
- 1.100 There are many substances or combinations of substances that have the potential to harm fish. Environment Canada has different means to identify such substances, including scientific and some working knowledge of sources of pollution and some individual substances that are harmful to fish and the aquatic environment. For example, during the late 1990s, the Department's Science Branch conducted a series of threat assessments that were summarized in a 2001 report. While this work is now becoming dated, it identified sources of pollution by industries and activities, such as municipal wastewater effluent, that have a significant impact on aquatic ecosystems.
- 1.101 Environment Canada has knowledge about chemical substances through its scientific assessments under the *Canadian Environmental Protection Act*, 1999 and about the sources of some pollution that are harmful to fish from the Department's other initiatives, such as the

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processes supporting the 1987 Great Lakes Water Quality Agreement. However, the Department's 2006 Science Plan identified the need for additional information to adequately assess the impacts of substances, especially the combination of substances entering fish habitat.

1.102 In June 2008, Environment Canada reported that "there is no national network of water quality monitoring sites designed specifically for the purpose of reporting the state of Canada's water quality in a fully representative way at different geographic scales across Canada." While such monitoring is not designed to identify individual substances harmful to fish, Environment Canada has indicated that information from water quality monitoring in sensitive watersheds could be used to supplement information about impacts on fish and fish habitat.

Complementary roles of related legislation and other jurisdictions have not been assessed

- **1.103** As noted earlier, Environment Canada does not have a separate organizational structure or processes to manage its overall *Fisheries Act* responsibilities; it uses the structures and processes that support its other legislative responsibilities, including the *Canadian Environmental Protection Act*, 1999 (CEPA).
- **1.104** Environment Canada has informed us that CEPA can play a complementary role to reduce the risk of violations of the *Fisheries Act* and reduce discharges of CEPA-regulated substances, thereby protecting fish habitat.
- 1.105 Reliance on CEPA. We expected to find that Environment Canada had determined the extent that the results achieved from its administration of CEPA could be relied on to meet its mandate for the Fisheries Act's prohibition against the deposit of harmful substances into waters frequented by fish. The Department could also use such an assessment to help it determine the resources needed for administering its Fisheries Act responsibilities. However, Environment Canada has not completed such an assessment.
- 1.106 The case study (page 38) shows how the Department has used and proposes to use CEPA and the Fisheries Act to address significant risks to fish habitat from wastewater effluent.
- 1.107 Reliance on other jurisdictions. We focused on Environment Canada's approach to cooperation with other jurisdictions, most notably provinces. Environment Canada relies on water legislation and enforcement in other jurisdictions to protect water from the effects of pollution and complement its *Fisheries Act* responsibilities. We expected

Canadian Environmental Protection
Act, 1999—Environment Canada's primary legislation for controlling industrial and commercial chemicals and wastes that present an unacceptable risk to human health and the environment. The Act gives Environment Canada authority to regulate substances that are determined to be toxic.

that Environment Canada had determined the extent that it could rely on the water legislation and enforcement by other jurisdictions to meet its mandate for the *Fisheries Act's* prohibition requirement. We found that Environment Canada had not done this.

1.108 There is a history of cooperation on water pollution prevention where federal, provincial, and territorial governments have worked together through the Canadian Council of Ministers of the Environment (CCME) to address wastewater effluent, water quality monitoring, and water quality guidelines. Such cooperation is widely recognized as being important to implementing successful pollution prevention programs.

1.109 The Government of Canada has entered into formal agreements with Alberta and Saskatchewan to administer aspects of the Fisheries Act's pollution prevention provisions. In a 1999 Report, the Commissioner of the Environment and Sustainable Development reported that these agreements did not always work as intended and that many activities that are essential to implementing the agreements were not working as well as they could.

Efforts to address risks posed by wastewater effluent

Wastewater effluent has long been identified as a major risk to aquatic ecosystems. It is one of the largest sources of pollution in water by volume and is a significant source of releases of nitrogen and phosphorus into water, both substances that can be harmful to fish. The issues that all governments must address to reduce the risks to water quality from wastewater effluent are complex and costly.

Under the *Fisheries Act*, wastewater effluent can contain substances harmful to fish. Environment Canada does not presently have a compliance strategy to ensure that municipal and other communities' wastewater facilities comply with the Act's prohibition requirement. However, Environment Canada's Enforcement Branch responds to complaints involving wastewater facilities. Since 1999, several high-risk substances often found in wastewater effluent have been regulated under the *Canadian Environmental Protection Act*, 1999 (CEPA).

In 2003, Environment Canada started working with the Canadian Council of Ministers of the Environment (CCME) to address wastewater effluent issues. In October 2007, the CCME released the draft Canada-wide Strategy for the Management of Municipal Wastewater Effluent (the Strategy) for consultation. At the same time, Environment Canada consulted on its proposal to develop and use *Fisheries Act* regulations to implement the Strategy.

The Strategy is to be implemented over a long time frame, as long as 30 years, with the high-risk facilities having to meet the proposed regulatory requirement within 10 years. The rationale for this lengthy time frame is the complex nature of the issues being addressed and the large costs involved to construct or upgrade wastewater facilities.

The necessary *Fisheries Act* regulations have yet to be established. However, this is an example of how CEPA and the *Fisheries Act* can be used to address significant risks to fish habitat.

1.110 We examined the Canada–Alberta Administrative Agreement for the Control of Deposits of Deleterious Substances under the *Fisheries Act*. We found that the agreement was out of date and not being fully implemented (see the case study below).

1.111 We found that Environment Canada cannot demonstrate that the agreements with the provinces are active and being implemented, and it does not know the extent that the legislative frameworks of other jurisdictions can be relied on to support Environment Canada's administration and enforcement of the pollution prevention provisions of the *Fisheries Act*.

Canada-Alberta Administrative Agreement for the Control of Deposits of Deleterious Substances under the Fisheries Act

In 1994, the Governments of Canada and Alberta entered into the Canada-Alberta Administrative Agreement for the Control of Deposits of Deleterious Substances under the *Fisheries Act* (the Agreement). The purpose of the Agreement was to establish terms and conditions for the cooperative administration of the pollution prevention provisions of the *Fisheries Act* and relevant provincial legislation. The rationale behind this was to streamline and coordinate the regulatory activities of Canada and Alberta and to reduce duplication. We examined the mechanisms that were in place under the Agreement to report to Environment Canada on the results achieved for specific responsibilities administered on its behalf.

We found that the Management Committee that governs the implementation and administration of the Agreement has not met in over two years. Environment Canada informed us that it meets regularly at the staff level with Alberta to discuss issues, including enforcement activity and reported releases of substances. Although Environment Canada has not formally assessed these working-level arrangements, it informed us that they are working effectively.

To determine how this collaboration has occurred in practice, we examined the arrangements for implementation of the Agreement with respect to oil sands operations. The Pembina Institute, an Alberta-based environmental non-governmental organization, has reported that oil sands operations are producing about 1.8 billion litres of tailings per day, storing them in tailing ponds. These tailings contain substances that are potentially harmful to fish. According to several environmental impact assessments of oil sands projects, leaching of the substances contained in the tailing ponds can be expected.

Environment Canada participates in environmental impact assessments and a number of oil sands working groups and research initiatives. Environment Canada has informed us that it does not have its own independent monitoring program because Alberta prohibits the release of tailing pond contents to surface water and monitors for leaching into local rivers and lakes. Alberta has a process in place to report spills to Environment Canada, including incidents that potentially fall under the *Fisheries Act*.

Environment Canada relies on the Agreement and the arrangements with Alberta to meet its *Fisheries Act* responsibilities. However, the Agreement's Management Committee has not provided its oversight role in over two years and Environment Canada has not formally assessed the extent that the arrangements with Alberta fulfill the Department's *Fisheries Act* responsibilities.

1.112 Recommendation. Environment Canada should develop a riskbased approach to the Fisheries Act pollution prevention provisions to identify, assess, and address significant risks associated with noncompliance with the Act. As part of this approach, Environment Canada should determine whether there are significant risks to fish habitat associated with non-compliance with the Fisheries Act that are not being addressed by the combination of its own administration and enforcement of the Act, and the administration of other federal and provincial legislation.

Environment Canada's response. The Department accepts this recommendation and has assigned responsibility to the Public and Resources Sectors Directorate of the Environmental Stewardship Branch to coordinate risk management and compliance promotion priorities for subsection 36(3) of the Fisheries Act and associated

In 2009–10, Environment Canada will develop a work plan to identify current risks and risk management activities in non-regulated sectors, including Fisheries Act compliance promotion activities and other federal and provincial legislation. In 2010-11, the Department will complete the review of risks and risk management activities and will adjust departmental work plans as required.

Some regulations and guidance are outdated

- 1.113 We expected that Environment Canada would actively administer the Fisheries Act regulations pursuant to the pollution prevention provisions, and ensure that the regulations, and guidance on compliance with the Act, are adequate, up-to-date, relevant, and enforceable.
- **1.114** Regulated industries. Of the six Fisheries Act pollution prevention regulations currently in force, Environment Canada actively administers two—the Pulp and Paper Effluent Regulations and the Metal Mining Effluent Regulations. The four remaining regulations date back to the 1970s and are based on outdated technology and practices, making them difficult to enforce.
- 1.115 For example, the Petroleum Refinery Liquid Effluent Regulations contain outdated effluent sampling methods and requirements that are used to determine whether refineries are complying with the Fisheries Act. In addition, these regulations only apply to the five refineries that began operations on or after 1 November 1973 when the regulations came into force. The 14 refineries that were operating before that date are not subject to the regulations but are covered by voluntary guidelines.

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1.116 In 1998, the Standing Committee on Environment and Sustainable Development recommended that the Minister of the Environment undertake a review of *Fisheries Act* regulations to ensure that they were adequate, up-to-date, and enforceable. Further, regulations that were found to be deficient were to be amended to ensure their enforceability. The government responded that a review was not needed at that time. Consequently, the regulations that the Committee was concerned about 10 years ago have yet to be reviewed by Environment Canada and have not been updated.

1.117 Under the 2007 Cabinet Directive on Streamlining Regulations, departments are responsible for ensuring that regulations continually meet their initial policy objectives and for renewing their regulatory frameworks on an ongoing basis. While Environment Canada officials have raised concerns about these outdated regulations, the Department has no plans to address the concerns.

1.118 Guidelines and best practice statements. Between 1970 and 1977, the Minister of Fisheries and the Environment issued six *Fisheries Act* guidelines to specific industries. These guidelines recommend voluntary measures that could be applied to control effluent discharged from operations and thereby demonstrate compliance with the Act. The guidelines are based on technology and best practices dating back to the 1960s. Consequently, the guidelines represent an impediment to Environment Canada's current enforcement of the Act's prohibition requirement, as industrial practices and technology have changed significantly in the intervening decades.

1.119 Environment Canada has also issued many industry-specific best practice statements over the years. However, the Department has no process to review and recall these statements should they become outdated.

1.120 Recommendation. Environment Canada should review existing *Fisheries Act* regulations, guidelines, and best management practices to ensure that they are adequate, up-to-date, relevant, and enforceable.

Environment Canada's response. The Department accepts this recommendation. Over the 2009–2012 period, Environment Canada will undertake a review of the continued relevance of the four regulations noted below in light of *Fisheries Act* guidelines, provincial standards, and industry best management practices, and will take the necessary steps to update or repeal them as appropriate:

- Chlor-Alkali Mercury Liquid Effluent Regulations
- Meat and Poultry Products Plant Liquid Effluent Regulations

- · Petroleum Refinery Liquid Effluent Regulations
- Potato Processing Plant Liquid Effluent Regulations

Enforcement quality assurance and control have weaknesses

- **1.121** We focused on Environment Canada's enforcement activities that prevent, deter, and detect non-compliance with the pollution prevention provisions of the *Fisheries Act*. Enforcement activities include
 - inspections to verify compliance;
 - investigations of suspected violations; and
 - measures to compel compliance, such as written directives and warnings, and charges under the Act.
- 1.122 We expected that Environment Canada could demonstrate that its enforcement actions had been taken in accordance with the Compliance and Enforcement Policy, which states that the Act must be administered and enforced in a "fair, predictable and consistent manner" and provides general guidance on how this is to be achieved.
- 1.123 We examined the Enforcement Branch's quality assurance and control practices for its enforcement activities. There are a number of important quality assurance and control practices in place. For example, Environment Canada has provided reporting independence to its Enforcement Branch as it now reports directly to the Deputy Minister, and the Department and Fisheries and Oceans Canada jointly developed the 2001 Compliance and Enforcement Policy in response to recommendations from a 1998 Report of the Standing Committee on the Environment and Sustainable Development. However, we found the following:
 - There is no overall process by which headquarters reviews regional enforcement activities to assess whether the Policy was followed and consistently enforced.
 - The Enforcement Branch has limited information on the nature and extent of *Fisheries Act* compliance issues. The Enforcement Branch believes that about 40 to 50 percent of the public complaints it receives arise from *Fisheries Act* concerns, but it has not completed an analysis of the nature of these complaints or the subsequent enforcement activities.
- 1.124 We selected a random sample of 15 enforcement actions—inspections, investigations, and measures to compel compliance—taken in the year ended 31 March 2008 to determine whether they

were taken in accordance with the Compliance and Enforcement Policy. We found that the enforcement actions we reviewed demonstrated compliance with the Policy.

1.125 Nevertheless, the weaknesses in the Enforcement Branch's quality assurance and control practices limit the Branch's ability to demonstrate that its actions have been taken in accordance with the Compliance and Enforcement Policy.

1.126 Recommendation. Environment Canada should ensure that its enforcement quality assurance and control practices are sufficient to demonstrate that its actions have been taken in accordance with the Compliance and Enforcement Policy.

Environment Canada's response. The Department accepts this recommendation. The Enforcement Branch is continuing to develop a framework, standardize processes, and establish accountabilities to enhance its quality assurance and its quality control. More specifically, the quality assurance and quality control framework is being both developed and implemented over the 2009–10 and 2010–11 fiscal years and maintained thereafter. At the same time, the Enforcement Branch is establishing a quality assurance unit, as well as a working group, to oversee and support the quality of enforcement data. Collectively, their responsibilities will include developing new procedures for data entry, implementing a systematic data quality and control monitoring process that will involve both regional management teams as well as headquarters, conducting periodic quality assurance analysis of enforcement files, and providing training to Enforcement Officers.

Interdepartmental cooperation

Cooperation between the two departments is lacking

1.127 The Minister of Fisheries and Oceans continues to be legally responsible to Parliament for all sections of the Fisheries Act, including administration of the pollution prevention provisions that have been assigned to Environment Canada. The Habitat Policy and the Compliance and Enforcement Policy promote the concept of Fisheries and Oceans Canada and Environment Canada working cooperatively to achieve the policies' objectives. We expected to find that the two departments had formal arrangements to establish the expectations for administration of the pollution prevention provisions of the Fisheries Act and that they had implemented the cooperative arrangements reflected in the policies.

- 1.128 A 1985 Memorandum of Understanding (MOU) between Fisheries and Oceans Canada and Environment Canada sets out their collective responsibilities for administration of the pollution prevention provisions of the *Fisheries Act*. It is not being actively implemented by the two departments. For example, the MOU calls for regular, at least annual, meetings between senior officials to discuss operational, regulatory, and national policy considerations. These meetings are not held.
- 1.129 In response to our 2001 audit, Fisheries and Oceans Canada noted that the Memorandum of Understanding would be reviewed in the near future to further clarify the respective roles and expectations of the two departments in administering the pollution prevention provisions. This has not been done.
- 1.130 Implementing the policies. We found that Fisheries and Oceans Canada and Environment Canada have few formal interactions related to the policies. The Habitat Policy indicates that Fisheries and Oceans Canada is to work with Environment Canada to establish federal priorities. The Policy also stipulates that Fisheries and Oceans Canada is to provide criteria for fisheries protection to Environment Canada to guide it in its effort to protect fish and fish habitat from pollution. This has not been done.
- 1.131 The 2001 Compliance and Enforcement Policy called for a joint review of its implementation by the two departments after five years. Seven years later, we found that neither department was aware of this requirement and the joint review has not been done.
- 1.132 While there are many ongoing working-level interactions between officials of the two departments, we found that this has not been translated into the specific actions called for under the Habitat Policy and the Compliance and Enforcement Policy.
- **1.133** Establishing expectations. There are no formal arrangements by which Fisheries and Oceans Canada and Environment Canada establish the expectations for administration of the pollution prevention provisions of the *Fisheries Act*. Environment Canada's administration of the provisions has been left to its discretion.
- 1.134 Recommendation. Fisheries and Oceans Canada, with the support of Environment Canada, should clearly establish the expectations for Environment Canada's administration of the pollution prevention provisions, including the expected interactions between the two departments to support the delivery of the 1986 Habitat Policy.

Environment Canada's and Fisheries and Oceans Canada's response. The departments accept this recommendation and, by 31 March 2011, will review the administration of section 36 of the Fisheries Act. By 31 March 2012, a renewed Memorandum of Understanding that better establishes expectations and responsibilities for Environment Canada will be in place.

Conclusion

1.135 Fisheries and Oceans Canada and Environment Canada cannot demonstrate that they are adequately administering and enforcing the Fisheries Act, and applying the Habitat Policy and the Compliance and Enforcement Policy in order to protect fish habitat from the adverse impacts of human activity.

1.136 Habitat Policy. In the 23 years since the Habitat Policy was adopted, Fisheries and Oceans Canada has not fully implemented the Policy, and little information exists about the achievement of the Policy's overall long-term objective of a net gain in productive fish habitat. Fisheries and Oceans Canada needs to gather information on the state of fish habitat and develop habitat indicators to assess the state of Canada's fish habitat. Through improved information about the state of fish habitat, Canadians will be better informed about whether progress is being made toward the Policy's long-term objective.

1.137 Environmental Process Modernization Plan (EPMP).

Fisheries and Oceans Canada has made progress in implementing the EPMP so that it can better manage its risks. The EPMP has resulted in a reliance on Canadians' self-compliance with the Fisheries Act habitat protection provisions for common, low-risk projects, to allow the Department to use its resources on projects that represent a greater risk to fish habitat. There are shortcomings in implementation of the EPMP. We found that the Department does not have adequate quality assurance and control processes for its new riskbased decision making. It cannot demonstrate that projects that represent a risk to fish habitat have been adequately assessed and a consistent approach has been applied. We found that Fisheries and Oceans Canada reduced its enforcement by half before implementing its new compliance approach. Further, the Department rarely monitors whether project proponents actually comply with the Department's conditions of approval or whether proponents' actions effectively maintained the expected no net loss in habitat.

1.138 Pollution prevention provisions. Environment Canada has not clearly identified what it has to do to meet its Fisheries Act responsibility for the pollution prevention provisions, including establishing results expectations and appropriate accountability arrangements that provide national coordination and guidance on the administration of the Act. Environment Canada does not use a risk-based approach to the Fisheries Act to identify, assess, and address risks associated with non-compliance with the Act that could lead to significant harm to fish habitat. It does not have a Fisheries Act compliance strategy for the industries and activities that must comply with the Act's prohibition against the deposit of harmful substances in waters frequented by fish. Environment Canada has not determined whether the results achieved through other legislation (such as the Canadian Environmental Protection Act, 1999), other levels of government, and its own enforcement activities meet the Act's stringent pollution prohibition requirement.

1.139 Review of regulations. Regulations under the pollution prevention provisions of the *Fisheries Act* allow regulated industries to deposit specified substances into waters frequented by fish within discharge limits. Environment Canada actively administers only two of the six *Fisheries Act* regulations for which it has responsibility. The two regulations cover the pulp and paper industry and metal mines, which have in the past represented risks to fish. However, the remaining four regulations, all of which date to the 1970s, are not actively being administered. The Department considers them to be outdated and difficult to enforce. By not reviewing these regulations to determine whether they still meet their initial policy objectives, Environment Canada is not following the 2007 Cabinet Directive on Streamlining Regulations.

1.140 Continuing issues. Many of the issues raised in this chapter have been raised before in previous audit reports, especially as they relate to Fisheries and Oceans Canada. For example, we have previously observed that Fisheries and Oceans Canada had not implemented aspects of the Habitat Policy, did not know whether it was progressing toward the ultimate objective of a net gain in fish habitat, and needed to devote more time and effort to compliance monitoring.

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About the Audit

All of the audit work in this chapter was conducted in accordance with the standards for assurance engagements set by The Canadian Institute of Chartered Accountants. While the Office adopts these standards as the minimum requirement for our audits, we also draw upon the standards and practices of other disciplines.

Objective

The audit objective was to determine whether Fisheries and Oceans Canada and Environment Canada can demonstrate that they are adequately administering and enforcing the *Fisheries Act*, and applying the Habitat Policy and the Compliance and Enforcement Policy in order to protect fish habitat from the adverse impacts of human activity.

Scope and approach

The audit included the administration of the fish habitat protection and pollution prevention provisions of the *Fisheries Act* and the two policies (the Habitat Policy and the Compliance and Enforcement Policy) that set out the government's intentions related to these provisions. The audit included the policies, programs, and activities of Fisheries and Oceans Canada and Environment Canada, and certain arrangements with others that support the administration and enforcement of these provisions.

The audit did not focus on the environmental assessments required by the Canadian Environmental Assessment Act that may be triggered by ministerial authorizations under the provisions of the Fisheries Act.

Our approach included reviewing documents from the headquarters and regional offices, interviewing management and employees, examining databases, examining a sample of project proposals referred to Fisheries and Oceans Canada, examining a sample of enforcement actions taken by both departments, and analyzing procedures. We also reviewed a number of relevant environmental petitions and the related responses from department ministers.

Criteria

Listed below are the criteria that were used to conduct this audit and their sources.

Criteria	Sources	
Fisheries and Oceans Canada and Environment Canada should administer and enforce the fish habitat protection and pollution control provisions of the <i>Fisheries Act</i> in a fair, predictable, and consistent manner so as to achieve the Habitat Policy and the Compliance and Enforcement Policy.	 Department of Fisheries and Oceans, Policy for the Management of Fish Habitat, 1986 Environment Canada, Compliance and Enforcement Policy for the Habitat Protection and Pollution Prevention Provisions of the Fisheries Act, 2001 Cabinet Directive on Streamlining Regulation, 2007 	

Criteria	Sources	
Fisheries and Oceans Canada and Environment Canada should work collaboratively with provinces, communities, and stakeholders to implement the fish habitat protection and pollution control provisions of the <i>Fisheries Act</i> , and the Habitat Policy and the Compliance and Enforcement Policy. Where specific responsibilities are administered by others on behalf of Fisheries and Oceans Canada and Environment Canada, mechanisms should be in place to report to Fisheries and Oceans Canada or Environment Canada on the results achieved in the conduct of these responsibilities.	 Department of Fisheries and Oceans, Policy for the Management of Fish Habitat, 1986 Environment Canada, Compliance and Enforcement Policy for the Habitat Protection and Pollution Prevention Provisions of the Fisheries Act, 2001 CCME, A Canada-wide Accord on Environmental Harmonization 1999 CESD Report—Streamlining Environmental Protection Through Federal-Provincial Agreements: Are They Working? 	
Fisheries and Oceans Canada's Environmental Process Modernization Plan should support the achievement of the Habitat Policy and the Compliance and Enforcement Policy, and be implemented fully, adapting its implementation to reflect experience.	 Department of Fisheries and Oceans, Policy for the Management of Fish Habitat, 1986 Environment Canada, Compliance and Enforcement Policy for the Habitat Protection and Pollution Prevention Provisions of the Fisheries Act, 2001 DFO Change Agenda DFO, Environmental Process Modernization Plan, 2004 Cabinet Directive on Streamlining Regulation, 2007 	
Fisheries and Oceans Canada and Environment Canada should measure and report on the extent to which their programs and activities contribute to the achievement of the Habitat Policy and the Compliance and Enforcement Policy and meet the reporting requirements under the <i>Fisheries Act</i> .	Department of Fisheries and Oceans, Policy for the Management of Fish Habitat, 1986 Environment Canada, Compliance and Enforcement Policy for the Habitat Protection and Pollution Prevention Provisions of the Fisheries Act, 2001 Results for Canadians: A Management Framework for the Government of Canada	

Audit work completed

Audit work for this chapter was substantially completed on 3 October 2008.

Audit team

Assistant Auditor General: Neil Maxwell Principals: Eric Hellsten and Kevin Potter Directors: Lana Dar and John Sokolowski

Erika Boch Sébastien Bureau Joanne Butler Don MacNeill David Wright

For information, please contact Communications at 613-995-3708 or 1-888-761-5953 (toll-free).

Appendix List of recommendations

The following is a list of recommendations found in Chapter 1. The number in front of the recommendation indicates the paragraph number where it appears in the chapter. The numbers in parentheses indicate the paragraph numbers where the topic is discussed.

Recommendation

Protecting fish habitat

1.33 In order to make consistent decisions on project referrals, in accordance with departmental expectations, Fisheries and Oceans Canada should ensure that an appropriate risk-based quality assurance system is in place for the review of these decisions. (1.19–1.32)

1.41 Fisheries and Oceans Canada should accelerate the implementation of its Habitat Compliance Decision Framework to ensure that there is an adequate risk-based approach to monitoring projects and providing assurance that proponents are complying with the Fisheries Act and all terms and conditions of departmental decisions. The Department should also determine whether the required mitigation measures and compensation are effective in meeting the no net loss principle. (1.34–1.40)

Response

Fisheries and Oceans Canada's response. The Department accepts this recommendation. Over the past number of years, Fisheries and Oceans Canada has made efforts to improve the quality, consistency, and transparency of its decision making by implementing the Risk Management Framework. Although much progress has been made, the Department recognizes that there is still much work to be done with respect to documentation standards. With that in mind, by 31 March 2010, Fisheries and Oceans Canada will implement a risk-based quality assurance system to verify that documentation standards are being applied consistently by staff.

Fisheries and Oceans Canada's response. The Department accepts this recommendation. Fisheries and Oceans Canada currently applies a risk-based approach, but recognizes that opportunities for improvement remain. Once the Habitat Compliance Modernization initiative is fully implemented, the Department will be able to provide better assurance that proponents are complying with the terms and conditions of the Department's decisions. Considering this, the Department commits to fully implement the Habitat Compliance Decision Framework and report on results of project monitoring activities by 31 March 2010 and annually thereafter.

Fisheries and Oceans Canada will continue to work with proponents to design and implement follow-up monitoring studies. Between now and the end of 2011, the Department will review and develop standard scientific methodologies to examine the effectiveness of compensation in achieving the no net loss guiding principle so that these methodologies can be used by proponents when designing monitoring studies.

Recommendation

1.48 Fisheries and Oceans Canada should ensure that its enforcement quality assurance and control processes are sufficient to demonstrate that its actions have been taken in accordance with the Compliance and Enforcement Policy. The Department should provide guidance on the type of complaints that fishery officers should respond to and take action on, and the Department should specify minimum documentation requirements for occurrences. (1.42–1.47)

1.69 Fisheries and Oceans Canada should clarify the parts of the Habitat Management Program that it will continue to administer, the extent that it wants others to deliver the program on its behalf, and the resource implications. The Department should also assess whether accountability mechanisms in all of its existing agreements are working effectively enough to report and assess the results achieved through its collaboration with others. In addition, it should review the agreements to ensure that they are aligned with its view of the long-term goals of the Habitat Management Program. (1.49-1.68)

1.74 Fisheries and Oceans Canada should develop habitat indicators to apply in ecosystems with significant human activity. The Department should use these indicators to assess whether it is making progress on the Habitat Policy's long-term objective to achieve an overall net gain in fish habitat. (1.70–1.73)

Response

Fisheries and Oceans Canada's response. The Department accepts this recommendation and, by 31 August 2010, will establish, disseminate, and communicate to regions an operational protocol to ensure better documentation of enforcement actions and monitoring of activities to ensure consistency with the Compliance and Enforcement Policy.

Guidance on the nature of complaints that warrant the attention of fishery officers has also been identified as a need by the Department. By 31 March 2011, the Department will examine the process currently in use and, by 31 March 2012, the Department will examine the Habitat Compliance Decision Framework to improve its guidance to staff, clarify documentation protocols, and establish minimum documentation standards for occurrences.

Fisheries and Oceans Canada's response. The Department accepts this recommendation and, by 31 March 2011, will have reviewed and evaluated its memoranda of understanding with provinces and territories. The Department will continue to work with its partners to strengthen the governance and accountability mechanisms and ensure that the partnership arrangements are aligned with the Department's goals and its strategic vision.

Fisheries and Oceans Canada's response. The Department accepts and agrees with this recommendation and is committed to moving toward an ecosystems approach and the increased use of biological indicators, particularly in areas of significant human activity. However, this task is far from trivial as it will require significant new scientific understanding to ensure that the indicators adopted do in fact tell us what we need to know about the health of the aquatic ecosystem.

Recommendation

1.80 Fisheries and Oceans Canada should determine what actions are required to fully implement the 1986 Habitat Policy and confirm whether it intends to implement all aspects of the Policy. (1.75–1.79)

Response

Fisheries and Oceans Canada's response. The Department accepts this recommendation and, by March 2010, will determine what actions are required to fully implement the Habitat Policy.

Pollution prevention provisions

1.93 Environment Canada should set out clear objectives and results expectations for its *Fisheries Act* responsibilities, and establish accountability for achieving the desired results, including providing national coordination and guidance on the administration of the Act. (1.81–1.92)

1.112 Environment Canada should develop a risk-based approach to the Fisheries Act pollution prevention provisions to identify, assess, and address significant risks associated with non-compliance with the Act. As part of this approach, Environment Canada should determine whether there are significant risks to fish habitat associated with non-compliance with the Fisheries Act that are not being addressed by the combination of its own administration and enforcement of the Act, and the administration of other federal and provincial legislation. (1.94 - 1.111)

Environment Canada's response. The Department accepts this recommendation and will put in place a Results-based Management and Accountability Framework in 2009–10 for Environment Canada's *Fisheries Act* responsibilities. The framework will clearly identify the objectives, responsibilities, and expected results, including how national coordination and guidance on Environment Canada's administration of the Act will be provided.

Environment Canada's response. The Department accepts this recommendation and has assigned responsibility to the Public and Resources Sectors Directorate of the Environmental Stewardship Branch to coordinate risk management and compliance promotion priorities for subsection 36(3) of the Fisheries Act and associated regulations.

In 2009–10, Environment Canada will develop a work plan to identify current risks and risk management activities in non-regulated sectors, including *Fisheries Act* compliance promotion activities and other federal and provincial legislation. In 2010–11, the Department will complete the review of risks and risk management activities and will adjust departmental work plans as required.

Recommendation

1.120 Environment Canada should review existing *Fisheries Act* regulations, guidelines, and best management practices to ensure that they are adequate, up-to-date, relevant, and enforceable. (1.113–1.119)

1.126 Environment Canada should ensure that its enforcement quality assurance and control practices are sufficient to demonstrate that its actions have been taken in accordance with the Compliance and Enforcement Policy. (1.121–1.125)

Response

Environment Canada's response. The Department accepts this recommendation. Over the 2009–2012 period, Environment Canada will undertake a review of the continued relevance of the four regulations noted below in light of *Fisheries Act* guidelines, provincial standards, and industry best management practices, and will take the necessary steps to update or repeal them as appropriate:

- Chlor-Alkali Mercury Liquid Effluent Regulations
- Meat and Poultry Products Plant Liquid Effluent Regulations
- Petroleum Refinery Liquid Effluent Regulations
- Potato Processing Plant Liquid Effluent Regulations

Environment Canada's response. The Department accepts this recommendation. The Enforcement Branch is continuing to develop a framework, standardize processes, and establish accountabilities to enhance its quality assurance and its quality control. More specifically, the quality assurance and quality control framework is being both developed and implemented over the 2009-10 and 2010-11 fiscal years and maintained thereafter. At the same time, the Enforcement Branch is establishing a quality assurance unit, as well as a working group, to oversee and support the quality of enforcement data. Collectively, their responsibilities will include developing new procedures for data entry, implementing a systematic data quality and control monitoring process that will involve both regional management teams as well as headquarters, conducting periodic quality assurance analysis of enforcement files, and providing training to Enforcement Officers.

Interdepartmental cooperation

1.134 Fisheries and Oceans Canada, with the support of Environment Canada, should clearly establish the expectations for Environment Canada's administration of the pollution prevention provisions, including the expected interactions between the two departments to support the delivery of the 1986 Habitat Policy. (1.127–1.133)

Environment Canada's and Fisheries and Oceans Canada's response. The departments accept this recommendation and, by 31 March 2011, will review the administration of section 36 of the *Fisheries Act*. By 31 March 2012, a renewed Memorandum of Understanding that better establishes expectations and responsibilities for Environment Canada will be in place.

2

Kyoto Protocol Implementation Act

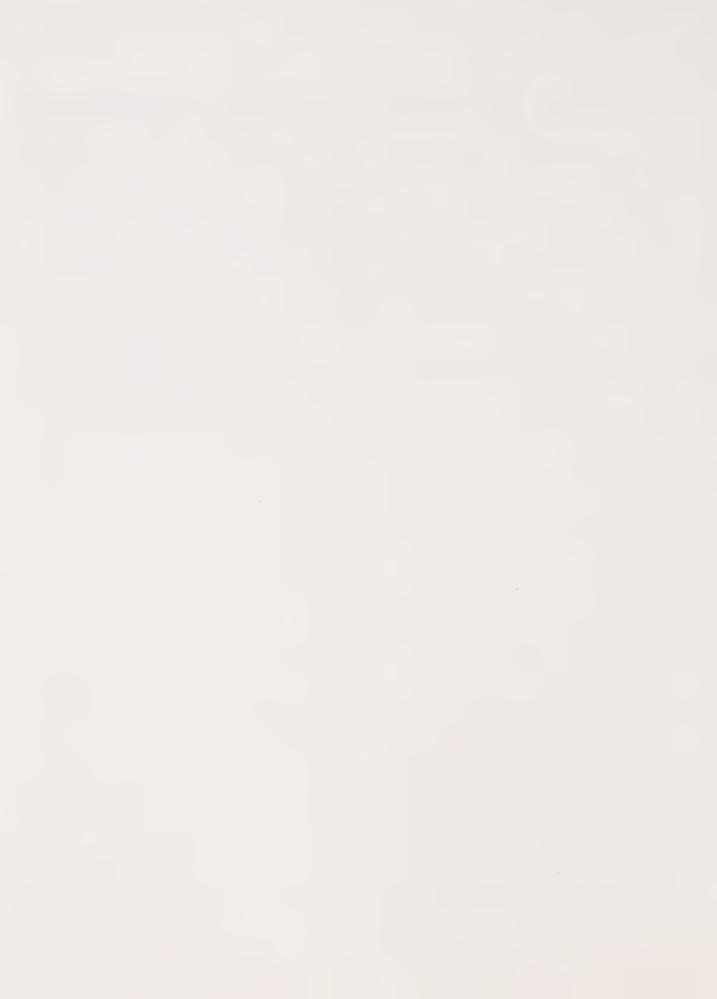


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Kyoto Protocol Implementation Act

Main Points

What we examined

In 2007, Parliament passed the Kyoto Protocol Implementation Act "to ensure that Canada takes effective and timely action to meet its obligations under the Kyoto Protocol and help address the problem of global climate change." The Act requires that the Minister of the Environment prepare and implement an annual climate change plan to address sources of greenhouse gas emissions in Canada. The annual plan is to include a series of measures aimed at reducing greenhouse gas emissions as well as a report on progress made in implementing the previous year's plan.

The Act also requires that the Commissioner of the Environment and Sustainable Development assess Canada's progress in implementing these plans and meeting its Kyoto Protocol obligations, reporting in 2009, 2011, and 2012. This chapter is our first report under the Kyoto Protocol Implementation Act.

The elements to be included in the annual climate change plans are set out in subsection 5. (1) of the Act. We examined whether the 2007 and 2008 climate change plans include all the measures and the related information required under subsection 5. (1). We also selected three groups of measures included in the plans for further examination—the Regulatory Framework for Industrial Greenhouse Gas Emissions, the ecoENERGY for Renewable Power program, and the proposed renewable fuels content regulations and nine other biofuels measures. The Regulatory Framework accounts for 80 percent of the reductions in greenhouse gas emissions expected during the Kyoto period (2008–2012) under the 2008 climate change plan called for by the Kyoto Protocol Implementation Act. It is also the principal component of "Turning the Corner," the government's main plan to reduce air emissions. We examined the accuracy of the information provided about the selected measures and the adequacy of the rationale on which expected reductions in greenhouse gas emissions were based. We also examined the systems Environment Canada has in place to monitor and report on the reductions achieved by the measures.

Why it's important

Successive federal governments have indicated that climate change is one of the most important issues facing the world, representing significant risks to the environment, the economy, and human health. The government has entered into international agreements such as the Kyoto Protocol to reduce greenhouse gas emissions. Recent studies by the Government of Canada indicate that climate change will likely have major impacts on Canadian ecosystems and on the health of Canadians.

What we found

- The 2007 and 2008 climate change plans do not include all of the information required under subsection 5. (1) of the *Kyoto Protocol Implementation Act*. Required information that is missing ranges from the dates that some planned emission reduction measures come into effect, to numerical statements of expected emission reductions from some measures, to whether some measures have been implemented by the projected date.
- Environment Canada could not demonstrate that the emission reductions expected under the Regulatory Framework for Industrial Greenhouse Gas Emissions are based on an adequate rationale. The climate change plans overstate the reductions that can be reasonably expected from the Regulatory Framework during the Kyoto period (2008 to 2012).
- For all three groups of measures we examined, the plans are not fully transparent. For example, they do not disclose how expected reductions in greenhouse gas emissions might be affected by such uncertain factors as future economic conditions.
- While Environment Canada has a system in place to report on Canada's total greenhouse gas (GHG) emissions, it has no system for reporting the actual emission reductions achieved from each measure in the annual climate change plans—a requirement under the Act. Environment Canada has indicated that the monitoring of actual GHG emission reductions could be technically unfeasible and not necessarily cost effective, and that reductions could be impossible to attribute to a specific measure. However, in the plans prepared to date, the Department has not explained why expected emission reductions can be estimated in advance but actual reductions cannot be measured after the fact for individual measures.

The Department has responded. The Department accepts three out of four of our recommendations. For recommendation 2.19, the Department does not accept the recommendation at this time but has indicated that it will explain its approach more completely in the next plan.

Introduction

2.1 The risks and impacts arising from climate change are varied and significant, as several recent reports state. According to the United Nations' Intergovernmental Panel on Climate Change's latest report in 2007, likely impacts of climate change include increased frequency of severe weather events such as droughts, floods, and storms. The Panel also states that the economic and social costs of climate change are likely to be significant. Natural Resources Canada's study, From Impacts to Adaptation: Canada in a Changing Climate 2007, identifies likely major impacts on Canadian ecosystems. As well, Health Canada's 2007 study, Human Health in a Changing Climate: A Canadian Assessment of Vulnerabilities and Adaptive Capacity, indicates that climate change will probably affect the health of Canadians.

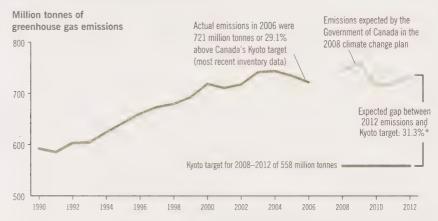
Kyoto Protocol Implementation Act

- In 2002, Canada ratified the international Kyoto Protocol. In June 2007, Canada's Kyoto Protocol Implementation Act came into force. The Act's stated purpose is "to ensure that Canada takes effective and timely action to meet its obligations under the Kyoto Protocol and help address the problem of global climate change." The government's obligations under the Kyoto Protocol are to reduce Canada's greenhouse gas (GHG) emissions level by an average of 6 percent below its 1990 emission levels during the protocol's time frame of 2008 to 2012. Starting in 2007 and up to 2013, the Act requires the government to produce an annual climate change plan. It stipulates that these plans must include a variety of measures (for example, regulatory, market-based, and fiscal measures) and account for and report on the GHG emission reductions expected or already achieved through each measure. After 2007, each plan must also report on the progress in implementing the measures described in the previous year's plan. To date, Environment Canada has prepared two plans on behalf of the federal government, which were released in August 2007 and May 2008. The May 2008 plan serves as an update of the August 2007 plan. In this chapter, all references to climate change plans are to the plans prepared in response to the Kyoto Protocol Implementation Act unless otherwise indicated.
- 2.3 Within the annual climate change plans, Environment Canada has indicated that the government will not achieve its Kyoto target. Consistent with this position, implementation of the measures in the 2008 climate change plan and achievement of their expected emission reductions will not bring Canada closer to its Kyoto target

Business-as-usual emissions-greenhouse

(Exhibit 2.1). Compared with the most recent available data for actual emissions (2006), the plan projects a small increase in emissions as of 2012, the end of the Kyoto period. The approach Environment Canada has used to determine the expected reductions from the measures is to state them relative to a future scenario in which the measures do not exist, known as business-as-usual emission projections. In contrast, the Act and the Kyoto Protocol require reporting against historical emission levels.

Exhibit 2.1 Gap between Government of Canada's expected GHG emissions in the 2008 climate change plan and Canada's target under the Kyoto Protocol



* Calculation of the gap percentage uses unrounded numbers from the inventory but rounded numbers from the 2008 climate change plan, because no unrounded numbers were available.

Sources: Adapted from Environment Canada's National Inventory Report, 1990-2006: Greenhouse Gas Sources and Sinks in Canada (May 2008) and A Climate Change Plan for the Purposes of the Kyoto Protocol Implementation Act (May 2008).

Mandate of the Commissioner under the Kyoto Protocol Implementation Act

Subsection 10.1 (1) of the Kyoto Protocol Implementation Act requires the Commissioner of the Environment and Sustainable Development to undertake specific work:

At least once every two years after this Act comes into force [22] June 2007], up to and including 2012, the Commissioner of the Environment and Sustainable Development shall prepare a report that includes

- (a) an analysis of Canada's progress in implementing the Climate Change Plans:
- (b) an analysis of Canada's progress in meeting its obligations under Article 3, paragraph 1, of the Kyoto Protocol; and
- (c) any observations and recommendations on any matter that the Commissioner considers relevant.

Focus of the audit

- **2.5** For our first audit under the *Kyoto Protocol Implementation Act*, we sought to determine whether Environment Canada can demonstrate that its annual climate change plans meet the requirements set out in subsection 5. (1) of the Act. Our audit work included three sub-objectives:
 - to determine whether Environment Canada's annual climate change plans include all applicable elements listed in subsection
 5. (1) of the Kyoto Protocol Implementation Act;
 - to determine whether Environment Canada, in conjunction with other selected departments, can demonstrate whether the information in its annual climate change plans pertaining to selected measures is accurate or based on an adequate rationale; and
 - to determine whether Environment Canada can demonstrate that it has systems in place to monitor and report on the greenhouse gas emission reductions of the selected measures in the annual climate change plans.

Pursuant to the Act, subsequent audits will be tabled in 2011 and 2012.

2.6 More details on the audit objectives, scope, approach, and criteria are in **About the Audit** at the end of this chapter.

Observations and Recommendations

Content requirements for the annual climate change plans

2.7 Subsection 5. (1) of the Kyoto Protocol Implementation Act requires the Minister of the Environment to prepare an annual climate change plan that includes information required by paragraphs (a) through (f) (Exhibit 2.2). We expected Environment Canada to have included all of these required elements in its plans. We reviewed the 2007 and 2008 plans against these requirements. The major part of the plans consists of a series of measures to reduce greenhouse gas (GHG) emissions. In each plan, we identified 19 measures for which the government provided expected GHG emission reductions—a key requirement. The plans also include about a dozen programs for which no numerical expected emission reductions are stated; rationales for the lack of numerical reduction statements are provided in most cases.

Exhibit 2.2 The Kyoto Protocol Implementation Act requires the annual climate change plan to contain specific elements

- 5. (1) Within 60 days after this Act comes into force and not later than May 31 of every year thereafter until 2013, the Minister shall prepare a Climate Change Plan that includes
- (a) a description of the measures to be taken to ensure that Canada meets its obligations under Article 3, paragraph 1, of the Kyoto Protocol, including measures respecting
 - (i) regulated emission limits and performance standards,
 - (ii) market-based mechanisms such as emissions trading or offsets,
 - (iii) spending or fiscal measures or incentives,

 - (iv) cooperative measures or agreements with provinces, territories or other governments;
- (b) for each measure referred to in paragraph (a),
 - (i) the date on which it will come into effect, and
 - (ii) the amount of greenhouse gas emission reductions that have resulted or are expected to result for each year up to and including 2012, compared to the levels in the most recently available emission inventory for Canada;
- (c) the projected greenhouse gas emission level in Canada for each year from 2008 to 2012, taking into account the measures referred to in paragraph (a), and a comparison of those levels with Canada's obligations under Article 3, paragraph 1, of the Kyoto Protocol;
- (d) an equitable distribution of greenhouse gas emission reduction levels among the sectors of the economy that contribute to greenhouse gas emissions;
- (e) a report describing the implementation of the Climate Change Plan for the previous calendar year; and
- (f) a statement indicating whether each measure proposed in the Climate Change Plan for the previous calendar year has been implemented by the date projected in the Plan and, if not, an explanation of the reason why the measure was not implemented and how that failure has been or will be redressed.

Source: Kyoto Protocol Implementation Act

The annual climate change plans do not fully meet the requirements of the Act

- 2.8 The 2007 and 2008 climate change plans were prepared by Environment Canada with input from other departments responsible for measures included in the plans. The annual climate change plans do not fully meet subsection 5. (1) of the Act. Our findings are as follows:
 - Description of the measures [paragraph 5. (1)(a)]: The plans include measures falling under each category specified in paragraph 5. (1)(a), except that there are no measures respecting "a just transition for workers affected by GHG reductions." The 2007 and 2008 plans note that significant worker adjustment will not be required, but they do not cite or summarize any analyses to explain how the government came to this conclusion.

- Effective date and expected GHG emission reductions [paragraph 5. (1)(b)]: The dates (month, year) on which a measure will come or has come into effect are provided for 8 of 19 measures in the 2008 plan. This is an improvement from the 2007 plan, which included a date for only one of the 19 measures reported. In reviewing the expected emission reductions for the measures, we found that some of the estimates had been revised from the first plan (2007) to the next (2008). Explanations of these revisions were not provided for most of these cases. Paragraph 5. (1) (b) also requires that the expected GHG reductions for each measure be compared with the most recently available emissions data for Canada. This was not done in the plans. Environment Canada indicated that it had addressed this requirement by incorporating the most recent data into the Department's business-as-usual projections against which expected reductions are stated. However, this approach does not allow for a clear and direct comparison of expected results with historical emission levels.
- Projected total national GHG emission levels compared with Canada's Kyoto target [paragraph 5. (1)(c)]: The plans present the projected total GHG emission levels for Canada during the Kyoto period. However, the plans do not compare these emission levels with Canada's obligations under Article 3, paragraph 1, of the Kyoto Protocol (the Kyoto target).
- Equitable distribution of GHG emission reductions [paragraph 5. (1)(d)]: The plans do not describe how they address the requirement to include an equitable distribution of GHG emission reductions among the sectors of the economy that contribute to GHG emissions.
- Description of implementation [paragraph 5. (1)(e)]: Information about implementation is provided for all 19 measures. However, the amount of information provided in the 2008 plan on the implementation of the measures for the previous year is inconsistent across the 19 measures, ranging from sparse to detailed.
- Timeliness of implementation [paragraph 5. (1)(f)]: A clear statement of whether a measure has been implemented by the date projected is provided for about 20 percent of the measures.
- **2.9** Recommendation. Environment Canada should ensure that the next annual climate change plan fulfills all the requirements of subsection 5. (1) of the *Kyoto Protocol Implementation Act* by addressing the findings in paragraph 2.8, including providing summaries of relevant analyses that were conducted to support departmental positions.

The Department's response. Environment Canada accepts this recommendation.

Beginning with the 2009 climate change plan, Environment Canada will request responsible departments—and will undertake itself—to provide further detail regarding effective dates, timelines; and descriptions of program implementation.

Further, beginning with the next plan, Environment Canada will more clearly provide a direct comparison of the projected greenhouse gas emission levels for the Kyoto period with Canada's obligations under the Kyoto Protocol.

Environment Canada believes that the plans it has published are consistent with the requirement that they reflect an equitable distribution of greenhouse gas emission reduction levels among the sectors of the economy that contribute to greenhouse gas emissions, and will state this clearly in subsequent plans.

Finally, as a potentially useful practice, Environment Canada, in drafting the next plan, will consider providing additional information on how it arrived at the conclusions on measures regarding just transition for workers and equitable distribution among sectors, though providing this information is not itself required by the Act.

Environment Canada consulted with Transport Canada and Natural Resources Canada to develop this response.

Selected measures in the annual climate change plans

- 2.10 We examined three significant groups of measures to reduce greenhouse gas (GHG) emissions in the annual climate change plans:
 - the Regulatory Framework for Industrial Greenhouse Gas Emissions (regulations and compliance mechanisms)
 - renewable fuels measures (proposed regulations and nine related measures)
 - the ecoENERGY for Renewable Power program
- 2.11 In the 2008 plan, we expected that Environment Canada would have reported accurate information on progress in implementing the selected measures since the 2007 plan. Environment Canada put in place a process to collect information from responsible departments and obtain sign-offs from deputy ministers on the information included in the plan. These sign-offs were obtained.
- 2.12 We also expected that the federal organizations responsible for the selected measures would have stated expected GHG emission

reductions that are based on adequate rationale. The following sections present our findings for the measures we examined.

Expected emission reductions are overstated for the Regulatory Framework for Industrial Greenhouse Gas Emissions

2.13 In 2006, emissions from all industrial sources accounted for about half of Canada's total GHG emissions. The proposed Regulatory Framework for Industrial Greenhouse Gas Emissions is the major component of the government's approach to reducing GHGs and other air emissions (the "Turning the Corner" plan). In addition, in the 2008 climate change plan prepared under the *Kyoto Protocol Implementation Act*, the framework accounts for about 80 percent of the total amount of expected GHG emission reductions for the 2008 to 2012 Kyoto period. According to the 2007 and 2008 plans, firms covered by the regulatory framework will be able to comply with their regulated emissions intensity targets through in-house projects such as improvements in energy efficiency or by using the framework's six proposed compliance mechanisms (Exhibit 2.3).

Emissions intensity—amount of greenhouse gas emissions (in carbon dioxide equivalents) per unit of production

Exhibit 2.3 The Government of Canada's proposed Regulatory Framework for Industrial Greenhouse Gas Emissions has six compliance mechanisms

- 1. Technology fund: Purchasing credits by contributing to a fund, administered by an independent third party, that will invest in future technological development to reduce GHG emissions across industry. Investment decisions will be made to maximize the emission reductions achieved. As proposed by Environment Canada, firms would pay \$15 per tonne of GHG emissions to the fund until the end of 2012.
- **2. Pre-certified investments:** Purchasing credits by investing directly in either a firm's own or joint-venture projects that are part of a list of projects already approved by the government. Carbon capture and storage are an example of such projects. As proposed by Environment Canada, pre-certified investments are also made at a rate of \$15 per tonne of GHG emissions until the end of 2012.
- **3. Offset system:** Obtaining emission reduction credits from projects that result in domestic reductions or the removal of GHG emissions from activities not covered by the regulations.
- **4. Clean Development Mechanism:** Firms will be able to purchase emission reduction credits for compliance purposes from this Kyoto Protocol mechanism up to a maximum of 10 percent of each firm's regulated target.
- **5. Domestic emissions trading system:** Purchasing emission reduction credits from firms that have exceeded their required emissions intensity reduction target or selling emission reduction credits by firms that have reduced their emission levels below their target.
- **6. Credit for early action:** Receiving one-time credits for verified emission reductions that occurred between 1992 and 2006. The total allowance to be divided among eligible firms would be 5 million tonnes per year between 2010 and 2012. The data provided by Environment Canada indicates that this option would not contribute to reductions during the Kyoto period of 2008 to 2012. However, as proposed by Environment Canada, credits could be used for compliance purposes during this period.



In 2006, industrial sources accounted for about half of Canada's total greenhouse gas emissions.

2.14 The proposed regulatory framework is complex, covering 14 sectors and several hundred facilities. Each compliance mechanism will require its own rules and institutional arrangements. Environment Canada indicated the framework would be in place by 1 January 2010, but there have been delays in publishing the associated draft regulations for the framework. These delays raise some doubt as to whether the Department will be able to meet its target date.

2.15 The GHG emission reductions expected from the regulatory framework were estimated by Environment Canada using the Department's Energy-Economy-Environment Model for Canada. In the plans, expected reductions from the framework are stated for each year of the Kyoto compliance period (2008–2012) against the business-asusual scenario. Exhibit 2.4 provides the regulatory framework's expected sources and amounts of emission reductions from the analyses conducted by Environment Canada. We found that within the Kyoto period, these expected reductions are overstated, because they include emission reductions unlikely to occur under the proposed technology fund and anticipated regulated codes of practice before 2012. Exhibit 2.5 shows the 2008 plan's expected GHG emissions compared with the case in which reductions for the technology fund and regulated codes of practice do not occur before the end of 2012.

The proposed regulatory framework's technology fund constitutes the largest source of expected GHG emission reductions during the Kyoto period. According to Environment Canada's analyses, at \$15 per tonne of GHGs emitted, payments to the fund would represent the cheapest compliance option available to companies until the end of the Kyoto period in 2012. Therefore, the Department assumes that companies will maximize their use of this option during the Kyoto period. Based on the time required for technology development, deployment, and adoption, contributions made before the end of 2012 are likely to result in GHG emission reductions after 2012 and not in the year the payment is made. During the course of the audit, Environment Canada indicated that it did not consider it necessary to state expected GHG emission reductions in terms of real reductions to be achieved in the year they are most likely to occur.

The framework's second largest source of projected GHG emission reductions is through the implementation of codes of practice that would be required by regulations. These codes aim to reduce unintentional fugitive emissions as well as hydrofluorocarbons. However, to estimate the expected GHG emission reductions. Environment Canada has assumed a best-case scenario with an initial

Fugitive emissions greenhouse gases

66

compliance rate of 100 percent even though regulations require time to promote and enforce.

2.18 In our view, based on the above observations, the expected annual GHG emission reductions for the regulatory framework are overstated.

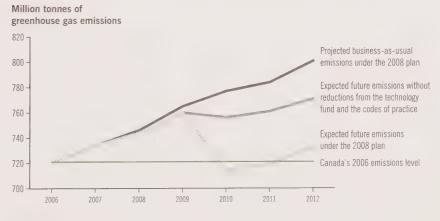
Exhibit 2.4 The 2008 climate change plan's Regulatory Framework sources and amounts of expected greenhouse gas emission reductions

Source of expected emission reductions	Amount of expected emission reductions (million tonnes)					
emission reductions	2008	2009	2010	2011	2012	
Internal reductions	0	0	3	4	4	
Compliance mechanisms						
Technology fund	0	0	30	28	24	
Offset system	0	0	4	5	7	
Clean Development Mechanism	0	0	4	4	7	
Codes of practice to reduce fugitive emissions and hydrofluorocarbons	0	0	11	14	14	
Total expected reductions stated in the 2008 climate change plan	0	0	52	55	56	

Note: In the analysis conducted by Environment Canada, no expected emission reductions were specifically attributed to the domestic emissions trading system, credit for early action, and pre-certified investments.

Source: Environment Canada

Exhibit 2.5 When reductions are counted in the year in which they are most likely to occur, greenhouse gas emission levels are expected to be higher than stated in the 2008 climate change plan



Source: Environment Canada

2.19 Recommendation. In accordance with the Kyoto Protocol Implementation Act, the projected greenhouse gas emission levels in Canada for each year from 2008 to 2012 should be reported for each measure in the annual climate change plan. Environment Canada should state its expected greenhouse gas emission reductions for the Regulatory Framework for Industrial Greenhouse Gas Emissions in the years that they are most likely to actually occur, rather than in the years that the payment is made to the technology fund and other compliance mechanisms. If this is not done, the Department should explain why in the next plan.

The Department's response. Environment Canada does not accept the recommendation at this time and will explain its approach more completely in the next plan.

Environment Canada is committed to transparency in the way that emission reductions are estimated. Expected reductions from the Regulatory Framework presented in the report A Climate Change Plan for the Purposes of the Kyoto Protocol Implementation Act 2008 represent the total emission reduction obligations required of industry under the Regulatory Framework.

The Regulatory Framework provides a number of options to industry for meeting these obligations. Environment Canada's modelling indicates that the choice of compliance option is influenced by differences in marginal costs that they present to regulated industries and therefore, actual in-year reductions may vary from the plan's estimates, depending on the specific compliance options chosen by individual firms. Because the Framework is market-based, it is not possible to establish with certainty which options will be most used by industry, and any such estimate would be so heavily dependent on a variety of technical assumptions that it would be inappropriate for use for the purpose of compliance with the *Kyoto Protocol Implementation Act*.

However, beginning with the 2009 climate change plan, Environment Canada proposes to explore providing a range of estimates for actual in-year reductions. As experience is gained with implementation, it will be possible to provide improved estimates, and approximately 15 months after implementation of the framework, the actual use of each compliance option by individual firms will be known.



The federal government provides support to farmers who grow corn, wheat, canola, and soy that is used to make biofuels.

The descriptions of the renewable fuels and renewable power measures are not fully transparent

- **2.20** Renewable fuels measures. Renewable fuels (or biofuels) include products ranging from ethanol and biodiesel to "next generation" bio-based fuels. According to Environment Canada, they can be blended into conventional petroleum-based fuels and can reduce GHG emissions from fuel combustion.
- 2.21 In December 2006, the Government of Canada announced its intention to implement federal regulations requiring an average renewable content of 5 percent in gasoline by 2010 and 2 percent in diesel fuel and heating oil by 2012. According to the 2008 climate change plan, the government expects the proposed regulations to lead to reductions of annual GHG emissions of 1.9 million tonnes by 2012. The Notice of Intent to Develop a Federal Regulation Requiring Renewable Fuels set a release date for the draft regulations in fall 2008. Environment Canada has since indicated that it expects the draft regulations to be released in late 2009.
- 2.22 In addition to the proposed regulations, the annual climate change plans present nine measures for biofuels economic development, research, and commercialization of technology. As elements of the government's Renewable Fuels Strategy, the measures are described as supporting the regulatory actions and their expected resulting emission reductions. However, the connection between these nine measures, the regulations, and GHG emission reductions is not made clear in the plans.
- 2.23 In the 2008 plan, the expected emission reductions from the proposed regulations were revised and decreased from those in the 2007 plan by an average of about 65 percent. This is because the government originally included expected results from provincial and other independent actions in its own expected GHG emission reductions. This practice was adjusted in the 2008 plan, and the new estimates are supported by adequate rationale. However, the plan does not clearly explain that the reductions from the regulations are stated relative to a hypothetical business-as-usual scenario and thus do not represent reductions relative to historical emissions levels.
- **2.24 ecoENERGY for Renewable Power program.** The program, under the responsibility of Natural Resources Canada, is a measure designed to increase Canada's supply of clean electricity from low-impact renewable sources such as wind, biomass, small hydro, geothermal, solar photovoltaic, and ocean energy. The program was launched in April 2007. It provides an incentive of one cent per kilowatt hour for up



The ecoENERGY for Renewable Power program provides a financial incentive to encourage the development of renewable energy projects, such as wind turbines.

Absolute emissions—the amount of greenhouse gas emissions (in carbon dioxide equivalents).

to 10 years to eligible renewable energy projects that are commissioned by 31 March 2011. By 2011 the program is expected to result in the reduction of greenhouse gas emissions equivalent to 6.67 million tonnes annually as a result of displacing emissions that otherwise would have been produced by the burning of fossil fuels.

2.25 We found that the expected emission reductions for the ecoENERGY for Renewable Power program are based on an adequate rationale. However, factors that could affect the estimate of these expected reductions—for example, wind flow variability affecting the achievement of production targets for the wind power projects—are not clearly explained in the plans. In addition, the plans do not clearly explain that the reductions attributable to the program on its own may be less when calculated by Environment Canada's model, which integretes all of the other measures in the plan.

The annual climate change plans do not disclose uncertainties about expected emission reductions

2.26 The Act does not require that the government report underlying assumptions and related uncertainties about the expected GHG emission reductions presented in the climate change plans. However, reporting such information is an accepted practice in modelling and in the reporting of results. For example, the Intergovernmental Panel on Climate Change has guidelines on the need for communicating uncertainty.

2.27 For each of the measures we selected for further examination, the plans do not discuss quantitative and qualitative uncertainties relevant to understanding the estimates of expected GHG emission reductions. For example, the ability of the Regulatory Framework for Industrial Greenhouse Gas Emissions to achieve absolute emission reductions by regulating emissions intensity depends on future economic trends. Environment Canada's Energy-Economy-Environment Model for Canada, used to estimate the expected reductions for the regulatory framework, requires making assumptions about these future trends. Although Environment Canada has disclosed most of its initial assumptions for this measure, it has not assessed how future economic conditions that differ from the assumptions might affect the expected emission reductions stated in the annual climate change plans.

2.28 Recommendation. Environment Canada and other responsible departments should describe in the annual climate change plans the quantitative or qualitative uncertainties related to the expected GHG

emission reductions of each measure. A range of potential emission reduction levels should be presented for the annual plans as a whole and for the individual measures where possible.

The Department's response. Environment Canada accepts this recommendation.

The Government of Canada has met the requirements of the Kyoto Protocol Implementation Act by providing expected emission reductions for each of the measures, which are individually expected to produce emission reductions. To comply with the Act's reporting requirements, the government uses internationally accepted methods and approaches.

While uncertainty analysis is not required under the Act, the Commissioner of the Environment and Sustainable Development has advanced this recommendation as a potentially useful practice to improve the plans prepared for the purposes of the Act.

The federal government is committed to continuously improving the way that the impacts of greenhouse gas reduction measures are estimated. In response to this recommendation, Environment Canada will work with other responsible departments to investigate options for presenting a range of expected emissions reductions where feasible and will consider including this information in the plans, beginning with the next plan in 2009.

Environment Canada consulted with Transport Canada and Natural Resources Canada to develop this response.

Monitoring and reporting greenhouse gas emissions

2.29 The Kyoto Protocol Implementation Act requires that, for each measure identified in the annual climate change plans, the government report on the amount of greenhouse gas (GHG) reductions that have resulted or are expected to result for each year of the Kyoto period, 2008 to 2012. For the measures selected, we expected Environment Canada to have systems in place for monitoring and reporting on their reductions for the Kyoto period. A system for monitoring is necessary to be able to report credible results.

A monitoring system has not been developed

2.30 According to Environment Canada, it is not possible to have a monitoring system capable of tracking actual GHG emission reductions for each of the individual measures reported in the plans. The Department has indicated that the monitoring of actual GHG emission reductions could either be technically unfeasible, not necessarily cost-effective, or impossible to attribute to a specific measure.

- 2.31 Environment Canada currently manages a system for tracking Canada's overall GHG emissions through the national greenhouse gas inventory, a type of reporting mechanism used by countries participating in the United Nations Framework Convention on Climate Change. The inventory estimates sectoral and overall emissions for Canada using standard international monitoring and reporting methods. The inventory does not subdivide emissions according to policy measures such as those found in the climate change plans.
- 2.32 Some measures in the plans will require highly credible monitoring of emissions and emission reductions in order to function and to be able to report on actual emission reductions. For example, the Regulatory Framework for Industrial Greenhouse Gas Emissions, accounting for a significant proportion of expected GHG emission reductions in the plans, will require rules for the quantification, reporting, and verification of each company's emissions in order to ensure that the credits awarded, purchased, and sold for compliance purposes will represent real reductions. Environment Canada has indicated that the framework's associated regulations will establish these rules.
- **2.33** According to the Act, the climate change plans have to include expected and actual emission reductions as they become available. Yet, the Department has indicated that there are difficulties in addressing this requirement. In the plans prepared to date, these difficulties have not been explained.
- **2.34** Recommendation. Environment Canada should clearly indicate how it will measure actual emission reductions for each of the GHG emission reduction measures in the plans. Where no such measurement takes place, the rationale should be provided for why expected emission reductions can be estimated in advance but corresponding actual reductions cannot be measured after the fact.

The Department's response. Environment Canada accepts this recommendation.

The Government of Canada recognizes the need for monitoring to determine the impact and effectiveness of its programs. However, no country has a comprehensive system in place to measure the direct and verifiable emissions reductions for individual programs.

For many of the programs that target a range of behaviours and sectors, such as the ecoACTION programs, emission reductions cannot be measured directly; they can only be estimated. The most practical and cost-effective way to calculate greenhouse gas emission reductions from individual measures is to take program data (e.g., reduction in

energy used by households or vehicles, increases in renewable energy) and apply reasonable assumptions and methods to estimate the impact of the program on greenhouse gas emissions. This is the method currently used by the government for these programs.

However, it will be possible to measure the emission reductions that result from the Regulatory Framework for Industrial Greenhouse Gas Emissions. The regulations implementing the Framework will establish rigorous rules for the quantification, reporting, and verification of each company's emissions, allowing emission reductions due to the Framework to be estimated with some confidence.

Beginning with the 2010 plan, when the first results are known for the Kyoto period (2008–2012), the Government of Canada will provide the estimated emissions reductions achieved for the measures in the plan where it is possible, clearly indicating the methodology used.

Environment Canada consulted with Transport Canada and Natural Resources Canada to develop this response.

Conclusion

- **2.35** Environment Canada cannot demonstrate that the Government of Canada's annual climate change plans for 2007 and 2008 fully meet all of the requirements set out in subsection 5. (1) of the *Kyoto Protocol Implementation Act*.
- **2.36** The 2007 and 2008 climate change plans do not include all applicable elements in subsection 5. (1) of the *Kyoto Protocol Implementation Act*. Required information that is missing ranges from the dates that some planned emission reduction measures come into effect, to numerical statements of expected emission reductions from some measures, to whether some measures have been implemented by the date projected.
- **2.37** For the Regulatory Framework for Industrial Greenhouse Gas Emissions, Environment Canada could not provide evidence that the information in the annual climate change plans was based on adequate rationale. The expected emission reductions claimed in the plans are overstated, and the uncertainties related to these reductions are not disclosed.
- **2.38** The statements of expected GHG emission reductions from the renewable fuels content regulations and the ecoENERGY Renewable Power program are based on adequate rationale. However, there are

shortcomings in the manner of presenting the expected reductions in the annual climate change plans. For example, known uncertainties about the expected reductions are not disclosed.

2.39 Environment Canada does not have a system in place to monitor and report, as required by the Act, on the greenhouse gas emission reductions for the measures in the annual climate change plans. Environment Canada has indicated that the monitoring of actual GHG emission reductions could be technically unfeasible and not necessarily cost effective, and that reductions could be impossible to attribute to a specific measure. However, in the plans prepared to date, the Department has not explained why expected emission reductions can be estimated in advance but actual reductions cannot be measured after the fact.

About the Audit

All of the audit work in this chapter was conducted in accordance with the standards for assurance engagements set by The Canadian Institute of Chartered Accountants. While the Office adopts these standards as the minimum requirement for our audits, we also draw upon the standards and practices of other disciplines.

Objectives

Our overall audit objective was to determine whether Environment Canada can demonstrate that its annual climate change plans meet the requirements set out in subsection 5. (1) of the *Kyoto Protocol Implementation Act*. Our audit work included three sub-objectives:

- 1. to determine whether Environment Canada's annual climate change plans include all applicable elements listed in subsection 5. (1) of the Kyoto Protocol Implementation Act;
- 2. to determine whether Environment Canada in conjunction with other selected departments can demonstrate whether the information in its annual climate change plans pertaining to selected measures is accurate or based on an adequate rationale; and
- 3. to determine whether Environment Canada can demonstrate that it has systems in place to monitor and report on the greenhouse gas emission reductions of the selected measures in the annual climate change plans.

Scope and approach

The audit is conducted pursuant to the requirements of the Kyoto Protocol Implementation Act, which came into force 22 June 2007. These requirements are described in subsection 10.1 (1) of the Act.

For each audit sub-objective, we interviewed key departmental officials in the National Capital Region. In addition, we undertook reviews of documentation supplied to us by the departments. Federal organizations addressed in this audit included Environment Canada, National Resources Canada, Agriculture and Agri-Food Canada, and Sustainable Development Technology Canada.

For sub-objective 1, we focused our analyses on those measures (19) for which expected GHG emission reductions were provided.

For sub-objective 2, we selected the following 12 measures in 3 key areas:

- Regulating industrial emissions through the Regulatory Framework for Industrial Greenhouse Gas Emissions;
- · Renewable fuels through
 - proposed regulations for renewable fuels content,
 - · scientific research and analysis on biofuels emissions,
 - ecoENERGY for Biofuels Initiative,
 - ecoAGRICULTURE Biofuels Capital Initiative,

- · Biofuels Opportunities for Producers Initiative,
- · NextGen Biofuels Fund,
- Pilot program to demonstrate E85 (85 percent ethanol) fuelling infrastructure,
- · Agricultural Bioproducts Innovation Program,
- · Agri-Opportunities Program, and
- · Co-operative Development Initiative, and
- Renewable Power, through the ecoENERGY for Renewable Power program

These audited measures were selected based on the amounts of expected greenhouse gas emission reductions and the amount of money allocated.

We did not audit Environment Canada's Energy-Economy-Environment Model for Canada.

Criteria

Listed below are the criteria that were used to conduct this audit and their sources.

Criteria	Sources				
Content requirements for the annual climate change plans					
We expected that Environment Canada has included all applicable elements (a through f) listed in subsection 5. (1) of the Kyoto Protocol Implementation Act.	Kyoto Protocol Implementation Act, 2007, subsection 5. (1)				
Selected measures in the	annual climate change plans				
We expected that Environment Canada can demonstrate that it has reported accurate information on the implementation of selected measures from the previous calendar year. We expected that selected organizations • have established clear and concrete expected greenhouse gas emission reductions for the individual measures, • have established expected emission reductions that are supported by adequate rationale, • have systems in place to monitor and report on the performance of the individual measures with regard to expected emission reductions, • have a quality assurance/quality control system in place for addressing the quality of the data, and • have established clear roles and responsibilities for implementing the measures and achieving results.	 Kyoto Protocol Implementation Act, 2007, subsection 5. (1) Treasury Board of Canada Secretariat, Management Accountability Framework, 2003, page 3 Treasury Board of Canada Secretariat, Results for Canadians: A Management Framework for the Government of Canada, 2000, page 5 Treasury Board of Canada Secretariat, Preparing and Using Results-based Management and Accountability Frameworks, 2005, page 2 Statistics Canada, Statistics Canada's Quality Assurance Framework, 2002, pages 2–3 				

Monitoring and reporting greenhouse gas emissions

We expected that Environment Canada has systems in place to monitor and report the greenhouse gas emission reductions of the measures in its climate change plans.

- Kyoto Protocol Implementation Act, 2007, subsection 5. (1)
- Treasury Board of Canada Secretariat, Preparing and Using Results-based Management and Accountability Frameworks, 2005, pages 11–12

Audit work completed

Audit work for this chapter was substantially completed on 9 January 2009.

Audit team

Principal: Richard Arseneault

Director: George Stuetz

Mark Kepkay Sylvie Marchand Marie-Soleil Nappert James Reinhart Tanya Sheikh Mary Anne Strong

Danielle Widmer

For information, please contact Communications at 613-995-3708 or 1-888-761-5953 (toll-free).

Appendix List of recommendations

The following is a list of recommendations found in Chapter 2. The number in front of the recommendation indicates the paragraph number where it appears in the chapter. The numbers in parentheses indicate the paragraph numbers where the topic is discussed.

Recommendation Response

Content requirements for the annual climate change plans

2.9 Environment Canada should ensure that the next annual climate change plan fulfills all the requirements of subsection 5. (1) of the *Kyoto Protocol Implementation Act* by addressing the findings in paragraph 2.8, including providing summaries of relevant analyses that were conducted to support departmental positions. (2.7–2.8)

Environment Canada accepts this recommendation.

Beginning with the 2009 climate change plan, Environment Canada will request responsible departments—and will undertake itself—to provide further detail regarding effective dates, timelines, and descriptions of program implementation.

Further, beginning with the next plan, Environment Canada will more clearly provide a direct comparison of the projected greenhouse gas emission levels for the Kyoto period with Canada's obligations under the Kyoto Protocol.

Environment Canada believes that the plans it has published are consistent with the requirement that they reflect an equitable distribution of greenhouse gas emission reduction levels among the sectors of the economy that contribute to greenhouse gas emissions, and will state this clearly in subsequent plans.

Finally, as a potentially useful practice, Environment Canada, in drafting the next plan, will consider providing additional information on how it arrived at the conclusions on measures regarding just transition for workers and equitable distribution among sectors, though providing this information is not itself required by the Act.

Environment Canada consulted with Transport Canada and Natural Resources Canada to develop this response.

Recommendation

Response

Selected measures in the annual climate change plans

In accordance with the Kyoto Protocol Implementation Act, the projected greenhouse gas emission levels in Canada for each year from 2008 to 2012 should be reported for each measure in the annual climate change plan. Environment Canada should state its expected greenhouse gas emission reductions for the Regulatory Framework for Industrial Greenhouse Gas Emissions in the years that they are most likely to actually occur, rather than in the years that the payment is made to the technology fund and other compliance mechanisms. If this is not done, the Department should explain why in the next plan. (2.13-2.18)

Environment Canada does not accept the recommendation at this time and will explain its approach more completely in the next plan.

Environment Canada is committed to transparency in the way that emission reductions are estimated. Expected reductions from the Regulatory Framework presented in the report A Climate Change Plan for the Purposes of the *Kyoto Protocol Implementation Act* 2008 represent the total emission reduction obligations required of industry under the Regulatory Framework.

The Regulatory Framework provides a number of options to industry for meeting these obligations. Environment Canada's modelling indicates that the choice of compliance option is influenced by differences in marginal costs that they present to regulated industries and therefore, actual in-year reductions may vary from the plan's estimates, depending on the specific compliance options chosen by individual firms. Because the Framework is market-based, it is not possible to establish with certainty which options will be most used by industry, and any such estimate would be so heavily dependent on a variety of technical assumptions that it would be inappropriate for use for the purpose of compliance with the *Kyoto Protocol Implementation Act*.

However, beginning with the 2009 climate change plan, Environment Canada proposes to explore providing a range of estimates for actual in-year reductions. As experience is gained with implementation, it will be possible to provide improved estimates, and approximately 15 months after implementation of the framework, the actual use of each compliance option by individual firms will be known.

Recommendation

2.28 Environment Canada and other responsible departments should describe in the annual climate change plans the quantitative or qualitative uncertainties related to the expected GHG emission reductions of each measure. A range of potential emission reduction levels should be presented for the annual plans as a whole and for the individual measures where possible. (2.26–2.27)

Response

Environment Canada accepts this recommendation.

The Government of Canada has met the requirements of the *Kyoto Protocol Implementation* Act by providing expected emission reductions for each of the measures, which are individually expected to produce emission reductions. To comply with the Act's reporting requirements, the government uses internationally accepted methods and approaches.

While uncertainty analysis is not required under the Act, the Commissioner of the Environment and Sustainable Development has advanced this recommendation as a potentially useful practice to improve the plans prepared for the purposes of the Act.

The federal government is committed to continuously improving the way that the impacts of greenhouse gas reduction measures are estimated. In response to this recommendation, Environment Canada will work with other responsible departments to investigate options for presenting a range of expected emissions reductions where feasible and will consider including this information in the plans, beginning with the next plan in 2009.

Environment Canada consulted with Transport Canada and Natural Resources Canada to develop this response.

Monitoring and reporting greenhouse gas emissions

2.34 Environment Canada should clearly indicate how it will measure actual emission reductions for each of the GHG emission reduction measures in the plans. Where no such measurement takes place, the rationale should be provided for why expected emission reductions can be estimated in advance but corresponding actual reductions cannot be measured after the fact. (2.29–2.33)

Environment Canada accepts this recommendation.

The Government of Canada recognizes the need for monitoring to determine the impact and effectiveness of its programs. However, no country has a comprehensive system in place to measure the direct and verifiable emissions reductions for individual programs.

For many of the programs that target a range of behaviours and sectors, such as the ecoACTION programs, emission reductions cannot be measured directly; they can only be estimated. The most practical and cost-effective way to calculate greenhouse gas emission reductions from individual measures is to take program data (e.g., reduction in energy used by households or vehicles, increases in renewable energy) and apply reasonable assumptions

Recommendation Response

and methods to estimate the impact of the program on greenhouse gas emissions. This is the method currently used by the government for these programs.

However, it will be possible to measure the emission reductions that result from the Regulatory Framework for Industrial Greenhouse Gas Emissions. The regulations implementing the Framework will establish rigorous rules for the quantification, reporting, and verification of each company's emissions, allowing emission reductions due to the Framework to be estimated with some confidence.

Beginning with the 2010 plan, when the first results are known for the Kyoto period (2008–2012), the Government of Canada will provide the estimated emissions reductions achieved for the measures in the plan where it is possible, clearly indicating the methodology used.

Environment Canada consulted with Transport Canada and Natural Resources Canada to develop this response.



Report of the Commissioner of the Environment and Sustainable Development—Spring 2009

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2009



Report of the
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FALL

The Commissioner's Perspective Main Points—Chapters 1 to 4 Appendix





2009



Report of the
Commissioner of the
Environment and
Sustainable Development

to the House of Commons

FALL

The Commissioner's Perspective Main Points—Chapters 1 to 4 Appendix





The Fall 2009 Report of the Commissioner of the Environment and Sustainable Development comprises The Commissioner's Perspective—2009, Main Points—Chapters 1 to 4, an Appendix, and four chapters. The main table of contents for the Report is found at the end of this publication.

The Report is available on our website at www.oag-bvg.gc.ca.

For copies of the Report or other Office of the Auditor General publications, contact

Office of the Auditor General of Canada 240 Sparks Street, Stop 10-1 Ottawa, Ontario K1A 0G6

Telephone: 613-952-0213, ext. 5000, or 1-888-761-5953

Fax: 613-943-5485

Hearing impaired only TTY: 613-954-8042

Email: distribution@oag-bvg.gc.ca

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To	the	Honourable	Speaker	of the	House	of C	ommons:
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On behalf of the Auditor General of Canada, I have the honour to transmit herewith this 2009 Fall Report to the House of Commons, which is to be laid before the House in accordance with the provisions of subsection 7(3) and 23(5) of the *Auditor General Act*.

Scott Vaughan
Commissioner of the Environment
and Sustainable Development

To the reader:

I welcome your comments and suggestions on this Report and other issues related to the environment and sustainable development. I can be reached at the following address:

Scott Vaughan
Commissioner of the Environment and Sustainable Development
240 Sparks Street
Ottawa, Ontario
K1A 0G6

For general questions or comments, please contact Communications at 613-995-3708 or 1-888-761-5953 (toll free).

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The Commissioner's Perspective—2009



The Commissioner's Perspective—2009



Scott Vaughan
Commissioner of the Environment
and Sustainable Development

Introduction

Among the broad range of issues examined in our reports to Parliament during the past year, I would like to focus on one important issue that comes up repeatedly—the importance of ensuring the quality of information used to design, implement, and monitor environmental management programs that can deliver measurable benefits to environmental quality.

Informed decision-making is at the heart of sound policy-making. The environmental programs of the federal government need science-based environmental information that is timely, robust, and accessible in ways that both identify patterns of environmental degradation and help programs concentrate on the most urgent environmental problems.

Relevant environmental information

Good-quality information about the environment is critical for Parliament to know if federal programs are working to control pollution, protect species and their habitats, safeguard freshwater resources, and reduce greenhouse gas emissions. Similarly, data on the most pressing environmental problems helps departments design and implement programs intended to promote compliance with laws and regulations, foster partnerships, and provide for regulatory enforcement.

The scope of science-based environmental information is as broad and complex as ecosystems themselves. For instance, the Intergovernmental Panel on Climate Change acknowledges the enormous complexity of the planet's carbon cycle. Climate change has potential impacts such as increased frequency and severity of tropical storms, hurricanes, and other weather events. In addition, climate change can have other, unforeseen impacts on, for example, the pattern of ocean currents, precipitation, insect pests, infectious diseases, and annual ice flows.

Environmental monitoring and data-gathering systems present the federal government with two key challenges: first, ensuring that the many stand-alone environmental monitoring systems currently in use accurately track trends in environmental quality; and second, determining if these systems can and should work in tandem to provide a composite or cumulative picture of the major challenges to environmental protection. The most recent Science Plan of

Environment Canada (2007) includes as a strategic priority developing an integrated environmental monitoring and prediction capability. However, it is unclear whether different monitoring systems—from the National Air Pollution Surveillance network to the Water Survey of Canada—are being linked through a strategic roadmap.

Over the past year, we have examined a variety of individual environmental monitoring and science-based programs. Many are working as intended. One example is Canada's Greenhouse Gas Inventory. We concluded that it conforms to technical guidelines of the Intergovernmental Panel on Climate Change and provides the government with a reasonable snapshot of annual greenhouse gas emissions—for example, in spring 2009, the Inventory reported that annual emissions had increased to 747 megatons. In turn, this information allows the federal government to track its performance against various climate-related targets. In May 2009, the government estimated that Canada's greenhouse gas emissions are likely to be more than 30 percent above its Kyoto Protocol commitments.

We have reported on other science-based environmental information systems during the past year. The Air Quality Health Index (AQHI) developed by Environment Canada and Health Canada provides real-time air-quality monitoring data associated with exposure to certain air pollutants. The Index is among the first of its kind in the world, and it demonstrates the practical value of federal leadership in applied environmental research.

In our 2009 Spring Report, we commended Health Canada for its work in reviewing and updating the Guidelines for Canadian Drinking Water Quality in order to take into account recent scientific evidence regarding allowable levels of microbiological, chemical, and radiological contaminants that could be found in Canada's drinking water. The review of the Guidelines continues to draw upon scientific research from within Health Canada and from universities, research centres, the World Health Organization, the US Environmental Protection Agency, and others.

Another important initiative is the federal government's national bio-monitoring program, which involves testing 5,500 people for traces of chemicals. This initiative will help inform the federal government about chemical exposure levels Canadians face. When the initiative is completed, the empirical evidence collected should help to show whether federal control systems are focused on the major sources of exposure to chemicals.

Unfortunately, other systems are incomplete, out-of-date, or non-existent. For example, we noted in 2001 and again this year in our Spring Report chapter on fish habitat protection that the government does not know which fish habitat is the most ecologically significant, and where the biggest threats to habitat are created by development projects or industrial water pollution. Without adequate information, it is impossible to know if the policy objective of "no net loss" of habitat is being met, or if the system of compensating for the destruction of one habitat by creating "equivalent" habitat is scientifically sound.

The fragility of fish populations was underscored by the recent collapse of the Fraser River salmon run in British Columbia. The Fraser River was historically among the richest salmon spawning grounds on the planet. Although the specific cause of this recent significant reduction had not been identified at the time of writing, scientists have long recognized that habitat destruction or degradation significantly impact fish populations. In our Spring Report chapter on fish habitat protection we noted that the improper construction of a causeway to access one gravel removal site resulted in the loss of up to 2.25 million pink salmon in 2006.

This year, we also examined Environment Canada's National Pollutant Release Inventory, which helps track emissions of 347 different chemical and waste substances, self-reported by roughly 8,500 facilities across Canada. Facilities required to report range from large factories to hospitals to landfills.

The Inventory has the potential to be a useful tool for informing the public and government about changing levels of pollutants released into the environment. In 2006, for example, when the Inventory showed a sudden spike in the release of acrylonitrile—a substance declared toxic under the *Canadian Environmental Protection Act*—Environment Canada responded rapidly by identifying the emission source and concluding an agreement with its provincial counterparts to put in place an emission-reduction plan that appears to be working.

However, Environment Canada does not have adequate systems and practices to verify that all facilities required to report their emissions are doing so and that the information they report is accurate. This factor reduces the Inventory's usefulness. In addition, the Department does not give users enough information on the limitations of the data to understand what the data can reliably be used for.

Since the environmental agenda first took shape, it has been recognized that government environmental information systems—from specific pollution monitoring systems to data that tracks

compliance and enforcement actions—should be made available to the public. Making such information publicly available enables groups of concerned citizens, working alone or in non-governmental groups as diverse as those under the Canadian Environmental Network or the network of Riverkeepers, to play an indispensable public service in helping to protect Canada's environment.

Environmental stewardship has never depended on government action alone. The public—through committed individuals, research organizations, non-governmental organizations, and First Nations—has always been at the forefront of the green agenda. One of the reasons why the Air Quality Health Index carries so much promise is because its design benefited from meaningful participation by non-governmental organizations. The National Pollutant Release Inventory was originally launched in response to the public demand for such information.

Cumulative environmental impact

While national attention is seized by high-profile cases like the collapse of the salmon run in the Fraser River, of deep concern is the cumulative impact of hundreds of environmental pressures that often go unnoticed and that build up over time. Tracking acute problems such as sudden environmental accidents may be relatively simpler than monitoring and understanding the multiple, accumulated effects of longer-term, lower-level, or lower-dose chronic environmental degradation that, over time, is undermining the viability of more than half of the Earth's ecosystems.

According to the Millennium Ecosystem Assessment—an international science-based diagnosis of the planet's major ecosystems that was published in 2005—during the past half-century, "humans have changed [major] ecosystems more rapidly and extensively than in any comparable period of time in human history." Approximately 60 percent of all ecosystem services—benefits of resources and processes supplied by natural ecosystems—are being degraded or used unsustainably, including fresh water, fisheries, and air and water purification.

Our 2009 Fall Report examines how the federal government has applied the Canadian Environmental Assessment Act over the past 14 years. We found that the government does not know whether environmental assessments conducted under the Act are of good quality. Nor has it tracked how effective environmental assessments are at identifying and mitigating environmental problems before they occur. The government has no systematic approach to monitoring whether mitigating measures required in environmental assessment

reports have been implemented to reduce pollution or protect habitats and species threatened by development projects.

Over 100 federal departments and agencies are required to comply with the Act. Each has the discretion to decide on the scope of environmental assessments, which in turn determines what type of assessment will be performed. Each department can limit the scope to those aspects that fall within its mandate and under the jurisdiction of the federal government. The result is a process-heavy system in which costly assessments may examine and report separately on only part of a project.

As part of the environmental assessment process, cumulative environmental impacts of projects are to be considered. This step remains a challenge for the government, as the needed information on past and future projects in a given locale is limited. It becomes an important concern in cases such as the oil sands development in Alberta, where multiple projects are undertaken in close proximity, and in cases where past development may have already compromised ecological integrity.

Parliament is scheduled to review the Canadian Environmental Assessment Act in 2010. Our audits point to a number of issues that need to be addressed, from scoping projects and determining their cumulative environmental impact to ensuring compliance with the Act's requirement for public consultation.

Conclusion

During the past year, we have reported to Parliament on the mixed results of the federal government's management of environmental programs: some programs are working well, others less well. However, the government cannot answer whether, taken together, federal programs are contributing to the protection of Canada's major ecosystems from the kind of degradation reported globally through the Millennium Ecosystem Report. Instead, we continue to examine piecemeal monitoring and other data systems that are not connected strategically.

In her report, the Auditor General notes that the lack of a strategic roadmap for many federal programs complicates their effective implementation, and lack of data hinders the evaluation of program effectiveness. Environmental programs are no exception. Until data programs are woven together to meaningfully track major changes over time in the quality of Canada's environment, we are left examining stand-alone or piecemeal approaches to protecting the environment.



Main Points—Chapters 1 to 4





Applying the Canadian Environmental Assessment Act

Chapter 1 Main Points

What we examined

Environmental assessment is a process used to predict and mitigate the adverse environmental effects of a project before it is carried out. Under the *Canadian Environmental Assessment Act*, projects that must undergo environmental assessment include the construction, operation, modification, demolition, or abandonment of a physical work, or other physical activities specified by regulation. The Act applies to projects for which a federal department or agency (referred to as a responsible authority) has decision-making authority, whether as project proponent, regulator, land manager, or funding source.

The federal organization is then responsible for conducting an environmental assessment, from defining the scope of the project, consulting with the public where deemed appropriate, carrying out the environmental assessment, determining the significance of the environmental effects, and ensuring their mitigation. There are effectively three types of environmental assessment—screenings, comprehensive studies, and review panels. In total, some 6,000 federal environmental assessments are carried out annually by more than 100 federal organizations that must apply the Act.

We examined whether federal organizations are complying with the environmental assessment process established by the Act. We reviewed a sample of screenings that were undertaken between 2003 and 2008 and comprehensive studies and panel reviews conducted between 1995 and 2008.

The Canadian Environmental Assessment Agency is responsible for administering the Act and maintaining a public Registry Internet site of environmental assessments. Its role is to serve as a centre of expertise intended to provide leadership and coordination of the federal process. Along with responsible authorities, it ensures that environmental assessments are timely and predictable, and assists parties in building consensus and resolving disputes. We examined whether the Agency is fulfilling these responsibilities.

Audit work for this chapter was substantially completed on 23 June 2009. It covered the period between 1995 and 2008.

Why it's important

Environmental assessments are important to protect environmental quality; for example, to prevent pollution and conserve habitat and biodiversity. The *Canadian Environmental Assessment Act* requires the consideration of environmental factors in federal planning and decision making. Identifying the potential environmental effects of a project before it proceeds is critical to anticipating, preventing, and reducing environmental damages.

Conducting environmental assessment early in the planning and proposal stages of a project is important so that the analysis can be of practical use to decision makers and mitigation measures can be incorporated into the project plans. Failure to predict and mitigate adverse environmental effects before carrying out a project can lead to significant environmental degradation and increased economic costs.

Effective, timely, and meaningful public consultation can help ensure that public concerns and values are considered during the environmental assessment process.

What we found

- For the comprehensive studies and review panels we examined, responsible authorities have complied with the Act. However, it is not clear that screenings—the most common type of assessment—are meeting all of the Act's requirements. In half the files we reviewed, the rationale or analysis was too weak to demonstrate how environmental effects of projects had been considered, their significance assessed, and decisions reached. The assessment of cumulative effects remains a challenge for all types of environmental assessment.
- For projects where there is more than one responsible authority, disputes about project scope may cause serious delays in the environmental assessment process, with related consequences for project implementation. The Canadian Environmental Assessment Agency has worked with parties in trying to resolve such disputes, with limited results. The Agency does not have the authority to impose a resolution.
- The Agency does not know whether responsible authorities are conducting good-quality environmental assessments and whether assessments are contributing to the protection the environment, as intended. It has not fully established and undertaken a quality assurance program as required by amendments to the Act in 2003.
- The Agency has established and maintained the Canadian Environmental Assessment Registry Internet site. Related project files are maintained as required for most environmental assessments.

The Agency has responded. The Agency agrees with all of our recommendations. Its detailed responses follow the recommendations throughout the chapter.

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Risks of Toxic Substances

Chapter 2 **Main Points**

What we examined

Canadians use many types of chemical substances every day that play an important role in modern society. When released into the air, water, or land, however, some of these substances can threaten human health and ecosystems.

The federal government plays an important role in managing chemicals that pose a risk to the environment and human health. The primary tool for doing this is the Canadian Environmental Protection Act, 1999 (CEPA 1999). Among other things, CEPA 1999 deals with determining whether existing and new substances are harmful to human health or the environment and managing the risks of those determined to be toxic. The Minister of the Environment and the Minister of Health jointly administer the task of assessing and managing the risks associated with toxic substances.

As of September 2008, there were 85 substances listed as toxic under CEPA 1999. We selected seven of these and examined how Environment Canada and Health Canada have managed the risks they pose to the environment and human health and the measures taken by both departments to control, reduce, and prevent these risks.

The toxic substances we selected (and examples of their uses and sources of emissions) are lead (batteries), mercury (thermometers), bis(2-ethylhexyl)phthalate or DEHP (plastic toys, medical devices), chlorobiphenyls or PCBs (older electrical transformers), dioxins and furans (incineration), dichloromethane (paint removal), and polybrominated diphenyl ethers or PBDEs (electronic equipment).

Audit work for this chapter was substantially completed on 30 June 2009.

Why it's important

The seven selected substances represent a range of risks to the environment and the health of Canadians. Health impacts vary by substance and may include learning disabilities, cancer, respiratory illness, and damage to internal organs. The impacts on fetuses and young children are particularly significant, even at low levels of exposure. Some of these substances may not be obvious to those that come in contact with them. They may be persistent and can be carried by air and water over long distances, causing damage to the health of humans, wildlife, and ecosystems far from where they are produced and used. It is important that the risks associated with their production and release be assessed and managed to minimize their harmful effects.

What we found

- Environment Canada and Health Canada have implemented a
 number of control measures to manage the risks posed by lead and
 mercury and have also developed strategies for managing risks
 related to consumer products that may contain these substances.
 However, there is no consolidated risk management strategy for
 either substance that indicates the federal government's objectives
 and priorities for managing the risks. Clearly outlining its objectives
 and priorities for these substances would help strengthen
 transparency and accountability.
- Environment Canada and Health Canada are assessing the performance of a number of the control measures that have been implemented for the toxic substances we examined, and they are taking steps to keep their knowledge of risks up-to-date. However, the departments lack a systematic process for periodically assessing progress made in managing the risks. Periodic assessments would allow department officials and other stakeholders to know how well the risks are being managed, whether actions are sufficient or need to be modified, and whether progress is reasonable and timely.
- While labelling of chemical products in the workplace is required to indicate the hazards of chronic use (such as cancer risks and reproductive toxicity), no similar requirement exists for certain consumer products where multiple or long-term use may pose chronic hazards. Product labels warn consumers of acute hazards such as poisoning and contain instructions on how to safely use the product. However, there is no requirement that labels inform consumers of chronic hazards that may result from multiple or long-term use of the product.
- New biomonitoring initiatives are under way that address a significant gap we identified in our 2002 audit covering toxic substances. These initiatives are part of a broader, more comprehensive approach by Environment Canada and Health Canada to monitoring toxic substances in both humans and the environment. Sustained support for these types of initiatives is important in order to identify progress being made over time in reducing levels of toxic substances.

The departments have responded. The departments agree with all of our recommendations. Their detailed responses follow the recommendations throughout the chapter.



National Pollutant Release Inventory

Chapter 3 M

Main Points

What we examined

The National Pollutant Release Inventory (NPRI) is a national, legislated, publicly accessible inventory that provides Canadians with information about the releases and transfers of key pollutants in their communities. Created in 1992, it is maintained by Environment Canada under the authority of the Canadian Environmental Protection Act, 1999 (CEPA 1999). It is the only inventory of its kind in Canada.

Industrial, institutional, and commercial facilities that meet certain reporting thresholds and criteria are required to report annually to Environment Canada on their releases and transfers of pollutants. Facilities may choose from a variety of methods to estimate and report their releases. They are not required to use the same method every year. Environment Canada makes the information it receives from facilities available to the public through the NPRI, which can be accessed and searched through an online database. In 2007, over 8,500 facilities reported on their releases, disposals, and transfers for recycling of the 347 specific substances or substance groups listed under the NPRI.

We examined what Environment Canada does to manage the quality of the data contained and published in the NPRI. Data quality is a function of its fitness for use, that is, the data's relevancy to its intended purpose and its users. It is also based on the interrelationship between six dimensions of quality—accuracy, completeness, understandability, reliability, timeliness and accessibility. Audit work for this chapter was substantially completed on 12 June 2009.

Why it's important

Pollution tracking and environmental monitoring are critical activities, given the potential for serious and irreversible damage to human health and the environment from pollution. The NPRI is an information tool maintained by the federal government for public use to help identify and monitor sources of pollution in Canada. The Inventory covers a wide variety of pollutants that are released and transferred in Canada each year such as lead, mercury, and benzene—which are listed as toxic under CEPA 1999. It is used by individuals, organizations, and governments for many different purposes, such as

tracking progress in reducing pollutant releases, informing policy and regulatory decisions, researching environmental issues, evaluating and reporting on facility or sector performance, and providing the general public with information about pollutants in their communities.

What we found

- While Environment Canada has carried out some activities to ensure that the data in the NPRI is relevant to the information's intended purposes and users, it does not have a consistent approach to determining the information needs of users, which is important for identifying trends in user needs and progress in meeting them.
- Environment Canada is working to improve NPRI data quality and makes the data accessible to users in a variety of ways on a timely basis. However, it does not have adequate systems and practices overall to ensure that data in the NPRI is fit for its intended uses. The Department is unable to assess the accuracy and completeness of the data, nor does it adequately state the limitations of the data so that users understand its nature and are aware of what the data can be used for and where caution needs to be applied. This has a critical impact on the reliability of comparisons and trend analysis.

The Department has responded. The Department agrees with our recommendations. Its detailed responses follow each recommendation throughout the chapter.

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Environmental Petitions

Chapter 4 Main Points

What we examined

Established in 1995 as a result of amendments to the Auditor General Act, the environmental petitions process provides Canadians with a formal means to bring their concerns about environmental issues to the attention of federal ministers and departments and to obtain a response to their concerns. Ministers are required to respond in writing within 120 days.

On behalf of the Auditor General of Canada, the Commissioner of the Environment and Sustainable Development manages the environmental petitions process and monitors responses of federal ministers. As required by the Act, the Commissioner reports annually on the quantity, nature, and status of petitions received and on the timeliness of departmental responses. This chapter contains the annual report on petitions and responses received between 1 July 2008 and 30 June 2009.

Why it's important

Environmental petitions are a feature of our parliamentary democracy. Submitting a petition is a simple way for Canadians to bring their environmental concerns to the attention of federal departments and agencies that are subject to the process. Monitoring and reporting on petitions and petition responses, as well as publishing those documents on our website, contributes to transparency in federal environmental management. The Office of the Auditor General also helps to promote federal accountability for environmental management by considering the issues raised in petitions and the responses they generate when it plans and conducts audits.

What we found

- Canadians submitted 28 petitions this year. This represents about half the number submitted last year. However, the diversity of topics covered was similar to last year. The issues most commonly raised were health, biodiversity, fish habitat, and environmental assessment. Petitions continue to range from those that focus on local issues to those that discuss national concerns.
- The number of on-time responses continued to decline. Only
 77 percent of responses were provided within the required 120 days,

- compared with 86 percent last year and 95 percent the year before. Two departments—Industry Canada and Environment Canada—accounted for about 70 percent of the late responses. Despite the fact that Health Canada was responsible for the largest number of responses this year, all of its responses were on time.
- Recent audit work in our Office has benefited from knowledge gained through petitions and responses. These include Chapter 1 of this report, Applying the Canadian Environmental Assessment Act, and Chapter 1 of our Spring 2009 report, Protecting Fish Habitat.

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Appendix



Appendix Auditor General Act—Excerpts

An Act respecting the Office of the Auditor General of Canada and sustainable development monitoring and reporting

INTERPRETATION

Definitions

2. In this Act.

"appropriate Minister" "appropriate Minister" has the meaning assigned by section 2 of the *Financial* Administration Act:

"category I department"

"category I department" means

- (a) any department named in Schedule I to the Financial Administration Act,
- (b) any department in respect of which a direction has been made under subsection 11(3) of the Federal Sustainable Development Act; and
- (c) any agency set out in the schedule to the Federal Sustainable Development Act.

"Commissioner"

"Commissioner" means the Commissioner of the Environment and Sustainable Development appointed under subsection 15.1(1);

"sustainable development"

"sustainable development" means development that meets the needs of the present without compromising the ability of future generations to meet their own needs;

POWERS AND DUTIES

Examination

5. The Auditor General is the auditor of the accounts of Canada, including those relating to the Consolidated Revenue Fund and as such shall make such examinations and inquiries as he considers necessary to enable him to report as required by this Act.

Annual and additional reports to the House of Commons

- 7. (1) The Auditor General shall report annually to the House of Commons and may make, in addition to any special report made under subsection 8(1) or 19(2) and the Commissioner's report under subsection 23(2), not more than three additional reports in any year to the House of Commons
 - (a) on the work of his office; and,
 - (b) on whether, in carrying on the work of his office, he received all the information and explanations he required.

Idem

- (2) Each report of the Auditor General under subsection (1) shall call attention to anything that he considers to be of significance and of a nature that should be brought to the attention of the House of Commons, including any cases in which he has observed that
 - (a) accounts have not been faithfully and properly maintained or public money has not been fully accounted for or paid, where so required by law, into the Consolidated Revenue Fund;
 - (b) essential records have not been maintained or the rules and procedures applied have been insufficient to safeguard and control public property, to secure an effective check on the assessment, collection and proper allocation of the revenue and to ensure that expenditures have been made only as authorized;
 - (c) money has been expended other than for purposes for which it was appropriated by Parliament;
 - (d) money has been expended without due regard to economy or efficiency;
 - (e) satisfactory procedures have not been established to measure and report the effectiveness of programs, where such procedures could appropriately and reasonably be implemented; or
 - (f) money has been expended without due regard to the environmental effects of those expenditures in the context of sustainable development.

STAFF OF THE AUDITOR GENERAL

Appointment of Commissioner

15.1 (1) The Auditor General shall, in accordance with the *Public Service Employment* Act, appoint a senior officer to be called the Commissioner of the Environment and Sustainable Development who shall report directly to the Auditor General.

Commissioner's duties

(2) The Commissioner shall assist the Auditor General in performing the duties of the Auditor General set out in this Act that relate to the environment and sustainable development.

SUSTAINABLE DEVELOPMENT

Purpose

- 21.1 In addition to carrying out the functions referred to in subsections 23(3) and (4), the purpose of the Commissioner is to provide sustainable development monitoring and reporting on the progress of category I departments towards sustainable development, which is a continually evolving concept based on the integration of social, economic and environmental concerns, and which may be achieved by, among other things,
 - (a) the integration of the environment and the economy;
 - (b) protecting the health of Canadians;
 - (c) protecting ecosystems;
 - (d) meeting international obligations;

- (e) promoting equity;
- (f) an integrated approach to planning and making decisions that takes into account the environmental and natural resource costs of different economic options and the economic costs of different environmental and natural resource options;
- (g) preventing pollution; and
- (h) respect for nature and the needs of future generations.

Petitions received

22. (1) Where the Auditor General receives a petition in writing from a resident of Canada about an environmental matter in the context of sustainable development that is the responsibility of a category I department, the Auditor General shall make a record of the petition and forward the petition within fifteen days after the day on which it is received to the appropriate Minister for the department.

Acknowledgement to be sent

(2) Within fifteen days after the day on which the Minister receives the petition from the Auditor General, the Minister shall send to the person who made the petition an acknowledgement of receipt of the petition and shall send a copy of the acknowledgement to the Auditor General.

Minister to respond

- (3) The Minister shall consider the petition and send to the person who made it a reply that responds to it, and shall send a copy of the reply to the Auditor General, within
- (a) one hundred and twenty days after the day on which the Minister receives the petition from the Auditor General; or
- (b) any longer time, where the Minister personally, within those one hundred and twenty days, notifies the person who made the petition that it is not possible to reply within those one hundred and twenty days and sends a copy of that notification to the Auditor General.

Multiple petitioners

(4) Where the petition is from more than one person, it is sufficient for the Minister to send the acknowledgement and reply, and the notification, if any, to one or more of the petitioners rather than to all of them.

Duty to monitor

- **23.** (1) The Commissioner shall make any examinations and inquiries that the Commissioner considers necessary in order to monitor
 - (a) the extent to which category I departments have contributed to meeting the targets set out in the Federal Sustainable Development Strategy and have met the objectives, and implemented the plans, set out in their own sustainable development strategies laid before the House of Commons under section 11 of the Federal Sustainable Development Act; and
 - (b) the replies by Ministers required by subsection 22(3).

Commissioner's report

- (2) The Commissioner shall, on behalf of the Auditor General, report annually to the House of Commons concerning anything that the Commissioner considers should be brought to the attention of that House in relation to environmental and other aspects of sustainable development, including
 - (a) the extent to which category I departments have contributed to meeting the targets set out in the Federal Sustainable Development Strategy and have met the objectives, and implemented the plans, set out in their own sustainable development strategies laid before that House under section 11 of the Federal Sustainable Development Act;
 - (b) the number of petitions recorded as required by subsection 22(1), the subject-matter of the petitions and their status; and
 - (c) the exercising of the authority of the Governor in Council under subsections 11(3) and (4) of the Federal Sustainable Development Act.

Duty to examine

(3) The Commissioner shall examine the report required under subsection 7(2) of the Federal Sustainable Development Act in order to assess the fairness of the information contained in the report with respect to the progress of the federal government in implementing the Federal Sustainable Development Strategy and meeting its targets.

Duty to report

(4) The Commissioner shall include in the report referred to in subsection (2) the results of any assessment conducted under subsection (3) since the last report was laid before the House of Commons under subsection (5).

Submission and tabling of report

(5) The report required by subsection (2) shall be submitted to the Speaker of the House of Commons and shall be laid before that House by the Speaker on any of the next 15 days on which that House is sitting after the Speaker receives it.

Report of the Commissioner of the Environment and Sustainable Development to the House of Commons—Fall 2009

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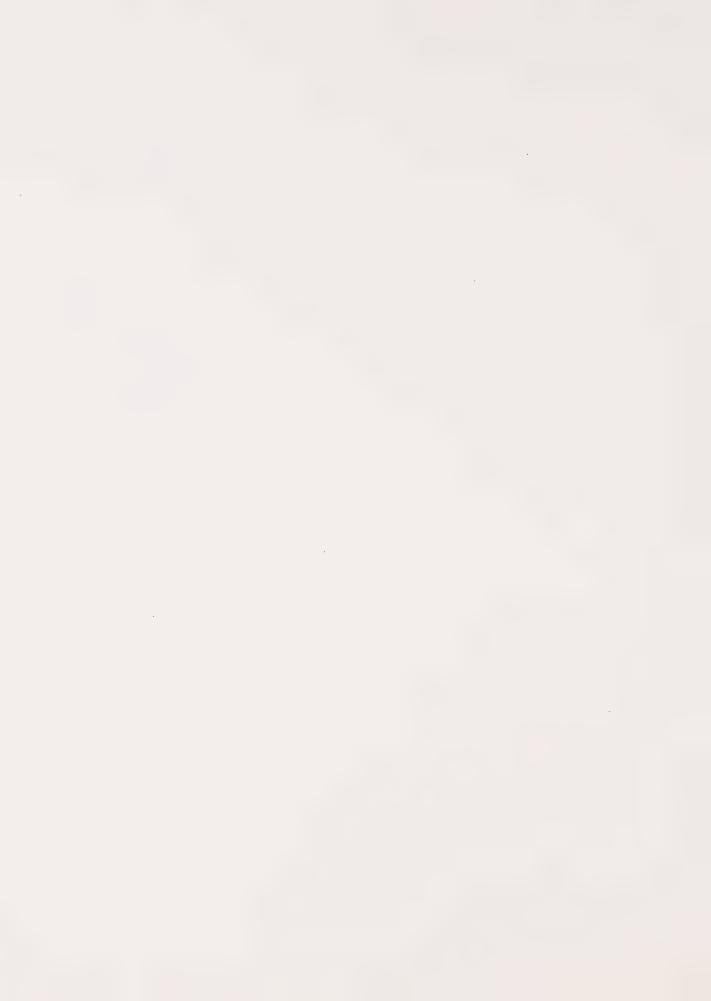
Chapter 2 Risks of Toxic Substances

Chapter 3 National Pollutant Release Inventory

Chapter 4 Environmental Petitions











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2009



Report of the

Commissioner of the Environment and Sustainable Development

to the House of Commons

FALL

Chapter 1
Applying the Canadian Environmental
Assessment Act



Office of the Auditor General of Canada



2009



Report of the

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to the House of Commons

FALL

Chapter 1
Applying the Canadian Environmental
Assessment Act



The Fall 2009 Report of the Commissioner of the Environment and Sustainable Development comprises The Commissioner's Perspective—2009, Main Points—Chapters 1 to 4, an Appendix, and four chapters. The main table of contents for the Report is found at the end of this publication.

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Office of the Auditor General of Canada 240 Sparks Street, Stop 10-1 Ottawa, Ontario K1A 0G6

Telephone: 613-952-0213, ext. 5000, or 1-888-761-5953 Fax: 613-943-5485 Hearing impaired only TTY: 613-954-8042 Email: distribution@oag-bvg.gc.ca

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Chapter

Applying the Canadian Environmental Assessment Act





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Applying the Canadian Environmental Assessment Act

Main Points

What we examined

Environmental assessment is a process used to predict and mitigate the adverse environmental effects of a project before it is carried out. Under the Canadian Environmental Assessment Act, projects that must undergo environmental assessment include the construction, operation, modification, demolition, or abandonment of a physical work, or other physical activities specified by regulation. The Act applies to projects for which a federal department or agency (referred to as a responsible authority) has decision-making authority, whether as project proponent, regulator, land manager, or funding source.

The federal organization is then responsible for conducting an environmental assessment, from defining the scope of the project, consulting with the public where deemed appropriate, carrying out the environmental assessment, determining the significance of the environmental effects, and ensuring their mitigation. There are effectively three types of environmental assessment—screenings, comprehensive studies, and review panels. In total, some 6,000 federal environmental assessments are carried out annually by more than 100 federal organizations that must apply the Act.

We examined whether federal organizations are complying with the environmental assessment process established by the Act. We reviewed a sample of screenings that were undertaken between 2003 and 2008 and comprehensive studies and panel reviews conducted between 1995 and 2008.

The Canadian Environmental Assessment Agency is responsible for administering the Act and maintaining a public Registry Internet site of environmental assessments. Its role is to serve as a centre of expertise intended to provide leadership and coordination of the federal process. Along with responsible authorities, it ensures that environmental assessments are timely and predictable, and assists parties in building consensus and resolving disputes. We examined whether the Agency is fulfilling these responsibilities.

Audit work for this chapter was substantially completed on 23 June 2009. It covered the period between 1995 and 2008.

Why it's important

Environmental assessments are important to protect environmental quality; for example, to prevent pollution and conserve habitat and biodiversity. The *Canadian Environmental Assessment Act* requires the consideration of environmental factors in federal planning and decision making. Identifying the potential environmental effects of a project before it proceeds is critical to anticipating, preventing, and reducing environmental damages.

Conducting environmental assessment early in the planning and proposal stages of a project is important so that the analysis can be of practical use to decision makers and mitigation measures can be incorporated into the project plans. Failure to predict and mitigate adverse environmental effects before carrying out a project can lead to significant environmental degradation and increased economic costs.

Effective, timely, and meaningful public consultation can help ensure that public concerns and values are considered during the environmental assessment process.

What we found

- For the comprehensive studies and review panels we examined, responsible authorities have complied with the Act. However, it is not clear that screenings—the most common type of assessment—are meeting all of the Act's requirements. In half the files we reviewed, the rationale or analysis was too weak to demonstrate how environmental effects of projects had been considered, their significance assessed, and decisions reached. The assessment of cumulative effects remains a challenge for all types of environmental assessment.
- For projects where there is more than one responsible authority, disputes about project scope may cause serious delays in the environmental assessment process, with related consequences for project implementation. The Canadian Environmental Assessment Agency has worked with parties in trying to resolve such disputes, with limited results. The Agency does not have the authority to impose a resolution.
- The Agency does not know whether responsible authorities are conducting good-quality environmental assessments and whether assessments are contributing to the protection the environment, as intended. It has not fully established and undertaken a quality assurance program as required by amendments to the Act in 2003.
- The Agency has established and maintained the Canadian Environmental Assessment Registry Internet site. Related project files are maintained as required for most environmental assessments.

The Agency has responded. The Agency agrees with all of our recommendations. Its detailed responses follow the recommendations throughout the chapter.

Environmental assessment—A process used to predict the environmental effects of a project before it is carried out.

Responsible authority—A federal entity that has decision-making authority for a project and is required to ensure that an environmental assessment is conducted.

Proponent—A person or organization planning a project.

Law List Regulations—A list of federal statutory and regulatory approvals that trigger the need for an environmental assessment under the Act (for example, authorizations under the Fisheries Act or approvals under the Navigable Waters Protection Act).

Comprehensive Study List Regulations—A list of projects with the potential to cause significant adverse environmental effects.

Introduction

- 1.1 The Canadian Environmental Assessment Act, which came into effect in 1995, forms the basis of the federal environmental assessment process at the project level. The Act requires federal decision makers to consider the environmental effects of proposed projects before taking any actions that would allow a project to be carried out, in whole or in part. Environmental assessments are important to protect environmental quality.
- 1.2 There are two main conditions for the Act to apply. First, the proposed project has to meet the definition of a project as set out in the Act. This includes the construction, operation, modification, demolition, or abandonment of a physical work, or other physical activities specified by regulation. Second, there must be a federal responsible authority that has some decision-making authority for a project. Specifically, the Act is triggered when a federal organization is
 - a proponent—proposes to carry out a project;
 - a source of funding—grants financial assistance to the proponent to enable a project to be carried out;
 - a land administrator—sells, leases, or otherwise disposes of land to enable a project to be carried out; or
 - a regulator—issues a permit, licence, or any other approval, as
 prescribed in the *Law List Regulations*, to enable a project to be
 carried out.

Types of environmental assessment

- 1.3 Under the Act, there are effectively three types of environmental assessment—screenings, comprehensive studies, and panel reviews. A fourth type of environmental assessment that exists under the Act—mediation—has never been used. The Canadian Environmental Assessment Agency reports that close to 80,000 environmental assessments have been initiated since 1995.
- 1.4 Screenings. Screenings account for approximately 99 percent of all environmental assessments. If the proposed project is not part of the *Comprehensive Study List Regulations*, it will be subject to a screening by default. Screenings can therefore be used to assess a wide range of projects, from small-scale projects such as a grazing permit, to large-scale projects such as the development of a mine. Typically, screenings are conducted for projects that are less likely to cause significant adverse environmental effects. Between October 2003 and June 2009,

- over 32,000 screenings were initiated by the responsible authorities for a project, acting as its proponent (19 percent), a source of funding (35 percent), its land administrator (15 percent), or as a regulator (31 percent). Since 1995, approximately 6,000 screenings are initiated each year.
- 1.5 Class screenings may be used to streamline the assessment of routine projects presenting common environmental effects, with known measures to reduce or eliminate the likely adverse effects. As of June 2009, there were 27 class screenings that were applied multiple times. Almost half of those have been developed by Parks Canada for routine projects in national parks, for example, the construction or repair of trails and day-use areas. Agriculture and Agri-Food Canada has used class screenings to complete close to 60 percent of all its environmental assessments. These are undertaken for small-scale farm infrastructure projects, such as the construction of a holding system for agricultural waste water.
- Comprehensive studies. Comprehensive studies are typically used for large-scale or complex projects likely to have significant adverse environmental effects. The Comprehensive Study List Regulations identify the types of projects that must be assessed through a comprehensive study. Examples include large-scale oil and natural gas developments, nuclear power developments, electrical-generation projects, industrial plants, and certain projects in national parks. For example, the construction and operation of a metal mine with a production capacity of over 3,000 tonnes per day would need to be assessed as a comprehensive study. Similar mining projects beneath this threshold would be assessed using a screening. On average, approximately 8 comprehensive studies are initiated each year. Since 1995, responsible authorities have initiated 105 comprehensive studies. Early on in the comprehensive study, the Minister of the Environment has to decide whether the project should continue to be assessed as a comprehensive study, or whether it should be referred to a mediator or review panel. If the Minister decides the project should continue as a comprehensive study, the project can no longer be referred to a mediator or review panel.
- **1.7 Panel reviews.** A review panel consisting of independent experts may be appointed by the Minister of the Environment where
 - it is uncertain that a project may cause significant adverse environmental effects,

- a project may cause significant adverse environmental effects and it is uncertain if these effects are justified in the circumstances, or
- there is public concern.

For example, the proposed Sydney Tar Ponds and Coke Ovens Remediation Project raised significant public concern and was referred to a review panel in 2005. The review panel is advisory; it submits recommendations to the Minister and to the responsible authority. On the completion of the assessment, the government prepares a response to the review panel's recommendations, and upon Governor in Council approval, the responsible authority then makes a decision about whether or not to take action that enables the project to proceed, in whole or in part. On average, fewer than five panel reviews are initiated each year. Since 1995, 44 panel reviews have been initiated.

- 1.8 The Act specifies the factors that must be considered when conducting an assessment. Except for public participation and followup, the requirements are very similar, whether conducting a screening (small or large project), a comprehensive study, or a panel review (Exhibit 1.1).
- **Environmental assessment decisions.** The outcome of an environmental assessment is a decision on whether a project is likely to cause significant adverse environmental effects. Before determining if it will take an action that would allow the project to proceed, a responsible authority must first ensure that an environmental assessment is conducted. According to the Agency, the significance of the environmental effects should be determined through a combination of scientific data, regulated thresholds, standards, social values, and professional judgment. Exhibit 1.2 outlines a responsible authority's potential environmental assessment conclusions and the decisions that it may make. It should be noted that Governor in Council approval is needed for any decision following an assessment by a review panel, and for any decision to provide federal support following a comprehensive study if the Minister of the Environment determines that significant adverse effects are likely.

Federal organizations involved in the application of the Act

1.10 More than 100 federal organizations are required to apply the Act. The responsible authority's role is to ensure that an environmental assessment is conducted, before making any decision regarding a proposed project.

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Exhibit 1.1 The Act has similar requirements for the three types of environmental assessment

	Environmental Assessment Type			
Feature	Screening	Comprehensive Study	Panel Review	
Determination of environmental assessment type	Default	Comprehensive Study List Regulations	Referred to panel review by Minister of the Environment (usually following request by responsible authority)	
Scope	Determined and issued by responsible authority	Determined and issued by responsible authority	Issued by the Minister of the Environment	
Responsibility for environmental assessment analysis	Self-directed assessment by responsible authority	Self-directed assessment by responsible authority	Independent review panel	
Factors to consider in the environmental assessment, as required by section 16 of the Act	Environmental effects of the project, including cumulative effects and effects of accidents and malfunctions Significance of the environmental effects Comments from the public Mitigation measures Any other matter relevant to the screening	 Environmental effects of the project, including cumulative effects and effects of accidents and malfunctions Significance of the environmental effects Comments from the public Mitigation measures Purpose of the project Alternative means of carrying out the project Need for and requirements of any follow-up program in respect of the project Capacity of renewable resources likely to be affected by the project Any other matter relevant to the comprehensive study or panel review 		
Public participation	Discretionary	Mandatory	Mandatory	
Follow-up program	Discretionary .	Mandatory	Mandatory	
Responsibility for environmental assessment decision	Responsible authority	Responsible authority	Responsible authority	

Exhibit 1.2 A responsible authority could make a number of potential conclusions and decisions

Responsible Authority Environmental Assessment Conclusion	Responsible Authority Environmental Assessment Decision
Significant adverse environmental effects are <i>not</i> likely.	May provide federal support.
 Significant adverse environmental effects are likely and cannot be justified in the circumstances. 	May not provide federal support.
 Significant adverse environmental effects are likely and may be justified in the circumstances. 	With approval of the Governor in Council, may provide federal support

Source: Adapted from the Canadian Environmental Assessment Agency

- 1.11 Self-assessment is considered a cornerstone principle of the federal process. The Act places the responsibility and the accountability for integrating the results of the environmental assessment into federal decisions on responsible authorities. As such, responsible authorities make numerous decisions that determine how an environmental assessment will be conducted. For example, they identify the scope of a project and the factors that must be considered in the environmental assessment. In addition, they are responsible for ensuring the quality of the environmental assessment, for determining the significance of the environmental effects, and for ensuring mitigation. Given the number of departments and agencies applying the Act, there is a wide range of approaches in conducting assessments.
- 1.12 The Canadian Environmental Assessment Agency reports to the Minister of the Environment and is mandated with the overall administration of the Act. It provides leadership and serves as a centre of expertise. Under the Act, the Agency has duties and powers, including to
 - administer and promote the environmental assessment process,
 - promote uniformity and harmonization,
 - ensure opportunity for timely public participation, and
 - assist parties in building consensus and resolving disputes.

Canadian Environmental Assessment
Registry—A government-wide mechanism that
facilitates public access to records relating to
environmental assessments conducted under
the Canadian Environmental Assessment Act.

Federal Environmental Assessment
Coordinator—For each screening or
comprehensive study, the Coordinator acts as
the principal point of contact for federal
authorities during the assessment process. The
Coordinator's main function is to coordinate
federal authorities that might be involved and to
consolidate the required information for the
assessment

Changes to the Act

- 1.13 In 2003, a series of amendments to the Canadian Environmental Assessment Act came into force, which included the following:
 - to improve coordination among federal participants and public participation,
 - to establish the Canadian Environmental Assessment Registry Internet site,
 - to create a requirement for the Agency to establish and lead a quality assurance program for assessments conducted under the Act, and
 - to create the role of the Federal Environmental Assessment Coordinator.

Another legislative review of the Act is scheduled to be undertaken in 2010.

Focus of the audit

- 1.14 This audit examined whether federal entities are applying key provisions of the *Canadian Environmental Assessment Act* and regulations under the Act. We examined whether
 - the Canadian Environmental Assessment Agency is assisting in resolving disputes and providing coordination to support the timely and predictable preparation of high-quality environmental assessments,
 - environmental assessments are being conducted and reports prepared as required under the Act,
 - mitigation and follow-up programs are being implemented where required,
 - requirements for the Canadian Environmental Assessment Registry are being met, and
 - the Agency has established a quality assurance program.
- 1.15 We reviewed a sample of screenings that were undertaken between 2003 and 2008 and comprehensive studies and panel reviews conducted between 1995 and 2008. More details on the audit objectives, scope, approach, and criteria are in **About the Audit** at the end of this chapter.

Observations and Recommendations

Long-standing issues in federal coordination

1.16 One of the first steps of the environmental assessment process is for federal authorities to determine the scope of a project. The scope of a project defines the parts of the project that are to be included or excluded from the environmental assessment analysis. Responsible authorities have the discretion to establish a project's scope according to their mandate or responsibilities. Their decision regarding the scope of a project determines whether the environmental assessment will be a screening or a comprehensive study. This discretion has been periodically challenged and appealed in court. A related appeal is to be heard by the Supreme Court of Canada (Exhibit 1.3).

Exhibit 1.3 Decisions by responsible authorities have been challenged in court

- 1. In 2000, a mine known as the Fort Hills Oil Sands Project (True North) was proposed near Fort McMurray, Alberta. Fisheries and Oceans Canada defined the scope of the project as the destruction of a fish-bearing stream and undertaking associated works, therefore requiring a screening. Environmental groups believed that a comprehensive study should have been undertaken because the entire project as proposed by the proponent met the criteria under the *Comprehensive Study List Regulations*. The groups challenged the scoping decision. Both the Federal Court in September 2004 and Federal Court of Appeal in January 2006 held that the scoping by the responsible authority was reasonable in the circumstances.
- 2. In a separate case, following the 2003 amendments to the *Canadian Environmental Assessment Act*, the Red Chris Copper–Gold Mine in British Columbia was proposed. Fisheries and Oceans Canada's decision to consider the project as one that required a screening was challenged in the Federal Court. In September 2007, the court agreed with the applicant that the responsible authority in its determination of environmental assessment type should have considered the project in its entirety, based on the project description. This would have required a comprehensive study to be undertaken and therefore public consultation at an early stage in the environmental assessment process. This decision was appealed and was overturned in June 2008 by the Federal Court of Appeal. On 18 December 2008, the Supreme Court of Canada allowed the applicant to appeal this decision. The appeal had not yet been heard at the time of our audit.
- 1.17 In cases where multiple responsible authorities are involved in the environmental assessment of a project, each retains discretion to determine its scope of a project and its environmental assessment. In such instances, proper federal coordination is important to achieving the goal of a predictable, timely, and efficient environmental assessment process. We examined whether the Canadian Environmental Assessment Agency is fulfilling its role of providing overall federal coordination, particularly with regard to assisting parties in resolving disputes when required.

Disagreement relating to scoping causes delays and can result in multiple assessments

- 1.18 According to responsible authorities and the Agency, reaching consensus and establishing the scope of a project when there is more than one responsible authority is a long-standing issue. It is a point of contention between responsible authorities and an ongoing problem for achieving timely federal coordination. This is particularly the case when the Canadian Environmental Assessment Act is triggered by a regulatory function, such as the issuing of a permit, licence, or any other approval as prescribed in the Law List Regulations of the Act. In these cases, responsible authorities have the discretion to include in the project's scope only those components of the proponent's work that may have an impact on aspects of the environment that fall within their specific departmental mandate and therefore over which they have authority.
- 1.19 Resolving disagreements among responsible authorities and achieving scoping decisions often takes several months to coordinate and can lead to serious delays in the process. For example, it took responsible authorities 11 months to reach agreement on the scope for the Galore Creek Copper-Gold-Silver Mine Project in British Columbia. Over this period, Transport Canada and Natural Resources Canada determined that the project triggered a comprehensive study, whereas Fisheries and Oceans Canada was still obtaining information to determine the extent of its scope. The scope of the project was ultimately decided as a comprehensive study.
- 1.20 The Agency and key departments have also recognized that such situations have led to inconsistency in applying the Act and have sometimes significantly delayed initiation of substantive work on assessments. This has not only affected the duration of the federal environmental assessment process, but also created an impediment to the coordination of federal and provincial processes. Delays in the environmental assessment process can translate into delays in the implementation of projects, which have potential related economic costs.
- 1.21 In addition to delays, differences in scoping can cause one project to undergo various types of assessment and result in more than one report. For example, while the Keltic Petrochemical and Liquefied Natural Gas Facilities project in Nova Scotia was subject to a comprehensive study that was initiated in 2005, Fisheries and Oceans Canada and Transport Canada defined different project scopes based on their areas of responsibility. Responsible authorities told us they

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were made aware a few months after the comprehensive study was initiated that the project would also include the construction of a dam. Transport Canada and Fisheries and Oceans Canada then began conducting a screening for the dam. Both assessments for this project are listed on the Internet site of the Canadian Environmental Assessment Registry under different titles as well as under different types of environmental assessment. In a separate example, in 2007, a comprehensive study for the Liquefied Natural Gas Transshipment and Storage Terminal project in Newfoundland was initiated by the responsible authorities Transport Canada and Fisheries and Oceans Canada, who again defined different project scopes. In such situations, it is difficult for the public to easily understand or find all the relevant information relating to one entire project and therefore to be in a position to provide informed comments.

Efforts at improving coordination and scoping of projects have been numerous

1.22 There have been numerous attempts to resolve the scoping issue. In his 2001 report to Parliament following a five-year review of the implementation of the Act, the Minister of the Environment proposed to bring greater certainty, predictability, and timeliness in the environmental assessment process. In 2003, the creation of the Federal Environmental Assessment Coordinator role was aimed at improving coordination among responsible authorities in order to reduce delays and improve consistency.

1.23 In 2005, the Government of Canada issued the Cabinet Directive on Implementing the Canadian Environmental Assessment Act. The Directive aims to make the environmental assessment process more predictable, certain, and timely. It includes a policy for determining an appropriate project scope that would result in a single federal environmental assessment for one proposed project. A memorandum of understanding to implement this policy was signed by the Agency and key federal departments. An Interim Approach for Determining Scope of Project for Major Development Proposals with Specific Regulatory Triggers under the Canadian Environmental Assessment Act was then agreed to by the Environmental Assessment Programs Committee to help departments determine a scope that would form the basis for a single environmental assessment of a project.

1.24 Following this, in 2007, the Government of Canada issued the Cabinet Directive on Improving the Performance of the Regulatory System for Major Resource Projects. One of its key objectives is to cut the average regulatory review period from four years to about two,

Environmental Assessment Programs
Committee—A committee consisting of the
Canadian Environmental Assessment Agency,
Fisheries and Oceans Canada, Transport
Canada, Health Canada, Environment Canada,
and Natural Resources Canada.

without compromising regulatory standards. The Major Projects Management Office was established in February 2008 under Natural Resources Canada, to provide overarching management of the federal regulatory process for major natural resource projects. The Office also works in collaboration with federal regulatory departments and agencies to develop and implement new approaches to improve the accountability, predictability, transparency, and timeliness of the federal regulatory process.

1.25 As part of its leadership role, under the Act and the 2005 Cabinet Directive, the Canadian Environmental Assessment Agency is pivotal in coordinating and facilitating timely and predictable environmental assessments. The Directive states the following:

The Agency will assist parties in building consensus and resolving disputes in a manner that supports the predictable, timely and efficient administration of the federal environmental assessment process, especially where there are disputes between federal authorities on determining an appropriate scope of a project or scope of the factors to be considered in an assessment.

However, the Agency does not have the authority to impose a decision when responsible authorities cannot reach an agreement.

Reaching consensus and resolving disputes on scoping remain a challenge

- 1.26 In 2009, the Environmental Assessment Programs Committee assessed the interim approach's first year of implementation (2007). The Committee found that responsible authorities had an inconsistent interpretation and different understanding of the interim approach. The Committee also found that the interim approach is not advancing the achievement of timely decisions on scope, which reiterates the challenges that key departments and the Agency have identified.
- 1.27 The previous efforts at trying to resolve the long-standing issue of scoping have mainly added more process. The Canadian Environmental Assessment Agency has worked with parties in trying to resolve such disputes, with limited results. Despite legislative and non-legislative attempts to improve the predictability, certainty, and timeliness of the environmental assessment process, scoping remains a challenge. In this context, new approaches to resolving this issue could be explored. During the upcoming legislated review of the Act in 2010, there will be opportunities to examine the functioning of the current Act as well as potential solutions to address issues. Given its central position as the administrator of the Act and the overall coordinator of

the process, the Agency is in a unique position to analyze these issues and to propose solutions.

1.28 Recommendation. The Canadian Environmental Assessment Agency should propose to the Minister of the Environment options for resolving serious, long-standing federal coordination issues, including the scoping of projects and other related issues.

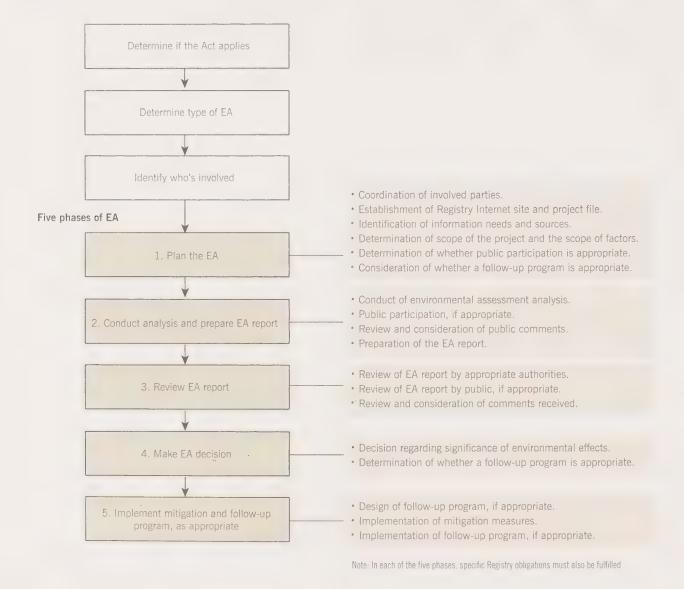
The Agency's response. Agreed. The recommendation is consistent with views that have been expressed over the last several years—that there are systemic issues that inhibit the efficient and effective implementation of the Canadian Environmental Assessment Act. The upcoming review of the Act will provide the opportunity for a parliamentary committee to examine the provisions and operation of the Act. In support of this review, the Canadian Environmental Assessment Agency will advise the Minister of the Environment on options for resolving issues, including those identified by the Commissioner of the Environment and Sustainable Development in this audit report. The Agency would also subsequently provide advice and recommendations to the Minister on responding to Parliament's recommendations.

The environmental assessment process

- 1.29 According to the Canadian Environmental Assessment Agency, environmental effects analysis involves the identification of interactions between a proposed project and the environment, and an analysis of those interactions to predict the potential for significant adverse environmental effects. This is integral to the concept and practice of environmental assessment.
- 1.30 The environmental assessment process should be applied as early as possible in the planning stages of a project and before irrevocable decisions are made. The Canadian Environmental Assessment Act sets out the specific steps to be followed in the federal environmental assessment process. This process has essentially five phases, from planning the environmental assessment to implementing mitigation measures or a follow-up program as a result of environmental assessment decisions (Exhibit 1.4).
- 1.31 We examined whether responsible authorities are applying the environmental assessment process according to the Act, including the consideration of the factors set out in section 16 of the Act (Exhibit 1.1) in their screenings, comprehensive studies, and panel reviews. We examined a random sample of environmental assessment files to determine how responsible authorities considered environmental effects, as well as opportunities for public participation,

in making their decisions. We examined whether responsible authorities ensure mitigation measures are implemented as required by the Act and whether follow-up programs are being carried out when required. We expected that relevant data, documentation, analyses, rationales, and any explanations would be available in files to support the consideration and mitigation of adverse environmental effects.

Exhibit 1.4 The environmental assessment (EA) process has five phases



Source: Adapted from the Canadian Environmental Assessment Agency

Comprehensive studies and panel reviews are meeting requirements

- 1.32 We found that the comprehensive studies and panel reviews included in our sample routinely considered all the factors set out in section 16 of the Act. They provided extensive analyses of the effects of the project and were well documented, with a description of the components of the undertaking, the components of the environment, and the environmental effects anticipated and their significance. In all cases, the public had been consulted on the environmental assessment and its results. Given this, we found that the rationale for decision making was well developed and documented.
- 1.33 Assessing cumulative effects remains a challenge. The assessment of cumulative effects allows for the identification of the incremental effects on the environment that may occur as a result of the combined influences of various actions. These incremental effects may be significant even though the effects of each action, when independently assessed, are considered insignificant. For example, although sedimentation as a result of one mining project may not have a significant impact on fish spawning habitat in a stream, there could be a significant impact due to combined sedimentation from the project and regional forestry operations. During an environmental assessment, the Act requires that responsible authorities consider cumulative effects that are likely to result from the project in combination with other projects that have been or will be carried out.
- 1.34 The comprehensive studies and panel reviews we examined each contained an assessment of cumulative effects. Although the Agency has issued guidance on how to address cumulative effects in environmental assessments, responsible authorities have told us that they still consider cumulative effects assessment to be a challenge. For example, information relating to past or future projects is often incomplete or not available. The Agency's guidance on cumulative effects suggests that, particularly in cases where there are multiple projects in the same geographic area, regional studies can provide the best and most complete assessment of cumulative effects.
- 1.35 For some large projects that occur in extensively developed areas, responsible authorities have begun to develop or participate in multi-stakeholder partnerships to identify and manage cumulative effects at a regional level. For example, given the scale and pace of development, the cumulative effects of oil sands development on the environment—air emissions, threats to water quantity and water quality, and impacts on ecosystems—are a serious concern. As noted by a review panel, "these key issues must be addressed with urgency if

oil sands development is to continue at the current pace." In 2000, the Cumulative Environmental Management Association (CEMA) was formed in partnership with industry, non-government organizations, First Nations, and all levels of government. CEMA's mandate is to develop recommendations on managing the environmental impacts resulting from multiple industrial developments and resource use within the oil sands region of northern Alberta. Oil sands developments are predicted to continue for decades. Committees such as this can contribute to monitoring the evolution of environmental effects at the regional level.

- Follow-up programs are implemented. Under the Act, the purpose of a follow-up program is to verify the accuracy of the environmental assessment and determine the effectiveness of any mitigation measures. Large projects may take years to construct and put into operation. While their related follow-up programs may take years to be completed, the information gathered can be used to identify unanticipated environmental effects and to correct problems as they arise to ensure that they do not result in environmental degradation. For instance, in the case of hydroelectric projects, numerous environmental components are monitored to verify the accuracy of the assessment and adapt management practices to better protect the environment (Exhibit 1.5).
- 1.37 We found that follow-up programs are being implemented as required for the comprehensive studies and panel reviews that we examined. These follow-up programs were designed to ensure the implementation of mitigation measures, verify the accuracy of the environmental assessment of a project, and monitor environmental effects in order to determine the effectiveness of the measures taken to mitigate the effects.

It is unclear how screenings are satisfying all the requirements of the Act

1.38 The majority of environmental assessments are conducted for small projects. Screenings comprise 99 percent of all environmental assessments conducted under the Act. Analysis conducted by the Agency found that nearly all screenings dealt with projects predicted to have a low potential to cause adverse environmental affects or to pose significant environmental risks. Our sample of screening files confirms this. Regardless, the Act specifies that all types of environmental assessment (whether screening, comprehensive study, or panel review) shall include a consideration of the significance of the adverse environmental effects of the project.

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Exhibit 1.5 Mitigation and follow-up programs allow for adjustments and corrective actions throughout the implementation and operation of a project

Since 1995, several major hydroelectric projects have been assessed as a comprehensive study or panel review under the *Canadian Environmental Assessment Act*. We examined files for four of these in Quebec—Eastmain-1-A and Rupert River Diversion Project; Toulnustouc Hydroelectric Facility; Péribonka Hydroelectric Facility; and Partial Diversion of the Portneuf River. For each project, we found that a follow-up program has been developed and is being implemented by the proponent, Hydro-Québec. Requirements for implementing mitigation measures, conducting follow-up activities, and reporting on results and corrective actions were included as conditions in the federal regulatory approvals that were issued following the environmental assessment.

While their follow-up programs are still years from completion, reports on results have already begun to produce information useful for adaptive management. For example, a key environmental concern related to the construction of reservoirs associated with the projects is their impact on mercury levels in fish. As a result of the follow-up programs, additional studies have been conducted to measure actual mercury levels and compare these with predicted effects.

We also observed instances where corrective actions have been taken by the responsible authorities, Fisheries and Oceans Canada (DFO) and Transport Canada. For example, for the Toulnustouc Hydroelectric Facility, Hydro-Québec must provide an annual report on fish productivity. In 2007, DFO analyzed the report and conducted field visits to verify the accuracy of the information provided. Following this, DFO required the proponent to improve future follow-up activities in relation to fish spawning and to take associated corrective actions.

- 1.39 We found that for half of the screenings in our sample, the determination of environmental effects was weak, often consisting of checklists or generic statements, and provided limited or no analysis or explanation of how environmental effects were rated. Without a documented rationale to support a determination, it is difficult to understand the predicted environmental effects and their significance. The lack of a documented rationale makes it impossible to ascertain to what extent requirements were considered.
- 1.40 According to the Act, mitigation is the elimination, reduction, or control of the adverse environmental effects of a project. For example, in order to stabilize disturbed areas and to avoid erosion, mitigation measures such as seeding or sodding may need to be implemented. The Act requires that a responsible authority, once it has decided to provide support for a project, ensure that the mitigation measures identified in the environmental assessment are appropriately implemented.
- 1.41 Not all screenings will require mitigation. Where a requirement for mitigation is identified, we found that, for 77 percent of screenings, the obligation to implement mitigation measures was integrated into

decision-making documents issued by the responsible authority. These documents included, for example, regulatory authorizations or agreements for funding support. However, many of these documents did not include a requirement to report on the implementation of mitigation measures and most did not include evidence in the file that mitigation measures had actually been put in place. Improvement to a project's design through the implementation of mitigation measures is among the key outcomes of the environmental assessment process. If not carried out appropriately, real protection of the environment may not be achieved.

While a follow-up program is mandatory only for comprehensive studies and panel reviews, all environmental assessments are required to consider whether a follow-up program is appropriate for the project. Responsible authorities required a follow-up program for less than two percent of screenings. The Agency's Operational Policy Statement for Follow-up Programs under the Canadian Environmental Assessment Act specifies that follow-up programs should be considered, for example, in cases where environmental effects were assessed using new or unproven technology, or where cumulative effects are an important component of the assessment. Given this, and the fact that screenings are often conducted for very small projects, it is reasonable to assume that a follow-up program might not be required in many cases. Nevertheless, we expected some rationale or explanation as to how the determination was reached to be included in the screening files. We found that about half the files we examined had little or no evidence to support this consideration of the need for a follow-up.

Quality of screenings is unknown

- 1.43 As many screenings documented limited or no rationale on file to support the responsible authority's consideration for the requirements of the Act, it is unclear whether all requirements were met. This raises questions about the quality of these environmental assessments and whether the environment is protected as intended. If potential environmental effects are not properly understood, there is a risk that a project could result in adverse environmental effects that were not anticipated. Conversely, overestimating the magnitude of adverse environmental effects could result in mitigation measures that are unnecessary and expensive.
- The quality of environmental assessments has never been evaluated for the federal government as a whole. Screenings are the most frequent type of environmental assessment that the federal responsible authorities conduct. Given our findings and the large

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volume of screenings initiated each year, such an evaluation by the Agency could identify strengths and weaknesses in the current practice. Corrective actions could then be identified where required.

1.45 Recommendation. The Canadian Environmental Assessment Agency should conduct an evaluation of the quality of environmental assessments, in particular for screenings conducted under the Canadian Environmental Assessment Act, including assessing their effectiveness in protecting the environment.

The Agency's response. Agreed. The Agency will develop a framework for analysis of the quality of screening reports. The framework will encompass indicators of key aspects of the environmental assessment, including the proposed mitigation measures. A sample of screening reports will be analyzed against the framework on an ongoing basis, and the analysis will be provided to responsible authorities to enable continuous improvement. The sample for analysis will be selective in recognition of the large percentage of screenings that relate to small-scale projects that likely have low potential for significant adverse environmental effects. The results of the analysis will be publicly reported on an annual basis.

Public participation—An active approach to seeking information and feedback from the public. Techniques for public participation can include open houses, public meetings, radio or

public notices, and newspaper advertisements.

Public comments—All input received from the public regardless of the approach used to obtain it. For example, this could include comments received from the public on the scope of the project as posted on the Registry's Internet site.

Responsible authorities conduct little public participation in screenings

- **1.46** Ensuring that there are opportunities for timely and meaningful public participation is a stated purpose of the Canadian Environmental Assessment Act. Under section 16 of the Act, every screening, comprehensive study, or panel review must consider public comments. For every assessment, there is an opportunity for the public to provide comments on the Canadian Environmental Assessment Registry Internet site.
- 1.47 In addition to public comments, responsible authorities need to determine whether public participation, as set out in subsection 18(3) of the Act, is appropriate. Consulting the public as part of the assessment is discretionary for screenings. Where public participation is considered appropriate, notice must be given on the Canadian Environmental Assessment Registry Internet site.
- 1.48 In 2006, the Ministerial Guideline on Assessing the Need for and Level of Public Participation in Screenings under the Canadian Environmental Assessment Act was issued. In its 2007 report, Federal Screenings: An Analysis based on Information from the Canadian Environmental Assessment Registry Internet Site, the Agency reported that public participation notices were posted on the Registry

Internet site for less than one percent of screenings. Responsible authorities and the Agency agreed to cooperate on further work to enhance their understanding of the use of public participation in screenings. This work resulted in a draft report that stated that there appeared to be a considerable lack of clarity and a wide divergence of opinion on the circumstances that warranted public participation and that further actions were needed to achieve a consistent interpretation. As of April 2009, this collaborative work was still not finalized.

- 1.49 Although none of the screenings in our sample included public participation as set out in section 18(3) of the Act, 19 percent did consider the results of other public consultation processes such as those conducted by the project's proponent or the province. Given that screenings are often conducted for very small projects, it is reasonable to assume that public participation might not be required in many cases. We expected some rationale or explanation to be included in the files as to how this determination was reached. However, 65 percent of screenings in our sample did not include in the files a rationale or explanation for this consideration.
- **1.50** Recommendation. The Canadian Environmental Assessment Agency should complete its collaborative work with responsible authorities on public participation in screenings and provide recommendations for improvement.

The Agency's response. Agreed. The Agency will finalize the report on public participation in screenings by the end of 2009.

Canadian Environmental Assessment Registry

1.51 The Canadian Environmental Assessment Registry consists of two complementary components: an Internet site and project files. The Internet site is an electronic registry administered by the Canadian Environmental Assessment Agency that contains key records relating to an environmental assessment that are contributed by a responsible authority or the Agency—for example, notice of the start of an assessment, opportunities for public participation, information on follow-up programs, and decisions. The project file is maintained by the responsible authority or the Agency and includes all records produced, collected, or submitted from the beginning of the environmental assessment until the responsible authority makes its environmental assessment decision or, for those projects that require one, the end of any follow-up program. Both the Internet site and the project file must be maintained in a manner that ensures convenient public access.

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1.52 We examined whether the Agency has established and maintained the Registry's Internet site as per the requirements of the *Canadian Environmental Assessment Act*. We also examined whether the responsible authorities are including the required documentation in the Registry and establishing project files. We examined whether the Agency and responsible authorities are undertaking these activities in a manner that facilitates timely and convenient public access.

The Agency has established quality controls for the Registry Internet site

- 1.53 We found that the Agency has established and maintained the Registry's Internet site. Public access to the site is available through the Agency's website. Search tools are available to help the public find information on all comprehensive studies and panel reviews, as well as all screenings initiated in or after October 2003. Since 2008, the Agency has also maintained a site for archived environmental assessments to make it clearer to the public when an environmental assessment is completed and thus no longer open for public comment.
- 1.54 Responsible authorities input information to the Internet site of the Registry. It is the responsible authorities' role to ensure that the information related to environmental assessments they post on the site is both accurate and appropriate. The reliability of the data on the Internet site depends on the quality control procedures for the Registry. We found that the Agency ensures that the Internet site functions well at a technical level, and has established and continues to improve on quality controls to ensure the consistency of the information entered into the database. For example, in 2007, a study conducted by the Agency found weaknesses relating to the timeliness, accessibility, and accuracy of screening documents posted on the Registry Internet site. The Agency has since implemented some corrective actions to address those issues but it has not yet assessed their overall effectiveness.

Project files are created as required for most environmental assessments

- 1.55 We found that project files were complete for all comprehensive studies and panel reviews included in our sample. Although responsible authorities created a project file for all screening files we examined, we found that 20 percent of these files showed gaps in timely posting of the information on the Registry Internet site.
- **1.56** Our examination also found differences in the tracking and accountability systems of the entities responsible for these files. Some entities are now using or developing a system where information

entered into a departmental tracking system communicates directly with the Registry database. Where adopted as a best practice, not only could this reduce gaps in data entry, but also reduce duplication of information and lessen the workload for responsible authorities.

Quality assurance

- 1.57 One of the roles of the Canadian Environmental Assessment Agency is to promote and monitor the quality of assessments conducted under the Canadian Environmental Assessment Act.

 Since 2003, the Act requires the Agency to establish and lead a quality assurance program for all environmental assessments conducted under the Act.
- 1.58 In order to undertake this critical function, the Agency has the power to request that responsible authorities provide information on the environmental assessments they conduct, to examine this information, and to report to the Minister of the Environment on the quality of the environmental assessments and implementation of the process by responsible authorities. Given the requirement of the Act and the time that has elapsed since the requirement was put in place, we expected the Agency to have established a quality assurance program.

The Agency has not fully established a quality assurance program

- 1.59 We found that the Agency has not yet fully established a quality assurance program. There is no clear framework, strategic direction, targets, or performance measures.
- 1.60 The Agency has initiated some quality assurance activities, but these are piecemeal and only partially cover the existing environmental assessment practice. For example, the Agency produced one public quality assurance report in December 2007. This report used information publicly available on the Registry Internet site to look at three aspects of screenings:
 - the nature of screenings and their potential for adverse environmental effects;
 - the screening process, including issues such as frequency and timeliness of notices of public participation and follow-up programs; and
 - the quality of services provided by the Registry Internet site, including the frequency of screening reports made available online.

A similar study was completed to address comprehensive studies but this has not been finalized or made public.

- 1.61 The Agency has not formally outlined what the most important issues are and their effect on the quality of environmental assessments or made recommendations for improvements. A quality assurance program could provide critical analyses of issues such as those raised in this chapter, including the scoping of a project, the quality of environmental assessment reports, and the implementation of mitigation measures. This could build the groundwork for corrective actions to be identified and implemented. This analysis could also provide valuable information for consideration in the upcoming legislative review of the Act.
- **1.62** Recommendation. The Canadian Environment Assessment Agency should complete the development of the quality assurance program and implement it.

The Agency's response. Agreed. To date, the work of the Agency's quality assurance program has largely been descriptive and has included issues of quality, compliance, and provision of information to support improvements. As the program progresses, the Agency will implement a more systematic approach by setting out the specific issues to be examined, the methods for examining those issues, and time frames for completion. The program will focus on key practices and implementation issues that will inform the 2010 parliamentary review. The results of the analysis will be provided to federal authorities with recommendations to guide continuous improvement and will be reported on publicly.

Conclusion

- 1.63 For the comprehensive studies and panel reviews that we have examined, the federal government is complying with the environmental assessment process established by the *Canadian Environmental Assessment Act* and is meeting its key provisions, including those related to implementation of mitigation measures. The situation is not as clear for screenings. It is not possible for us to conclude whether they comply with requirements. The assessment of cumulative effects remains a challenge for all types of environmental assessment.
- 1.64 For screenings, we found that files documented limited or no analysis or rationales for key decisions and, therefore, it is not clear how environmental effects have been considered or their significance assessed. Although mitigation measures were often identified to reduce the anticipated environmental effects and included in the responsible

authority's decision-making documents, there was little evidence provided on file to indicate that they had been implemented.

- 1.65 The Canadian Environmental Assessment Agency has a coordination and leadership role in the application of the Act. Responsible authorities often disagree on key issues such as how a project scope should be defined. These situations have resulted in serious delays in the conduct of environmental assessments. We found that the Agency has assisted parties in trying to resolve such disputes, with limited results. The Agency does not have the authority to impose a resolution on responsible authorities.
- The Agency has not fully established and undertaken a quality assurance program as required by the 2003 amendments to the Act and therefore cannot provide assurance that responsible authorities are conducting quality environmental assessments. Further, the Agency does not know to what extent environmental assessments are contributing to the protection of the environment as intended.
- 1.67 The Agency has established and maintained the Canadian Environmental Assessment Registry Internet site. Departments and agencies are responsible for ensuring that the information they post on the site is accurate, appropriate, and timely. We found that most related project files are maintained as required.

About the Audit

All of the audit work in this chapter was conducted in accordance with the standards for assurance engagements set by The Canadian Institute of Chartered Accountants. While the Office adopts these standards as the minimum requirement for our audits, we also draw upon the standards and practices of other disciplines.

Objectives

The overall audit objective was to determine the extent to which federal entities comply with key provisions of the Canadian Environmental Assessment Act. Our audit work included five sub-objectives:

- to determine whether the Canadian Environmental Assessment Agency is assisting in resolving disputes and providing coordination to support the timely and predictable preparation of high-quality environmental assessments,
- to determine whether federal entities are complying with the environmental assessment process established by the Act,
- to determine whether federal entities are ensuring implementation of mitigation measures and followup programs,
- to determine whether the Canadian Environmental Assessment Agency and federal entities are meeting the requirements for the Canadian Environmental Assessment Registry, and
- to determine whether the Canadian Environmental Assessment Agency has established a quality assurance program.

Scope and approach

The Canadian Environmental Assessment Act is applied across the federal government by federal departments and agencies that are responsible either for the administration of the Act or for its implementation. For each of the audit sub-objectives, we interviewed key department officials in Ottawa and in regions across the country.

We undertook extensive reviews of documentation that we requested or that was supplied to us by the Canadian Environmental Assessment Agency and the departments and agencies conducting the assessments included in our examination. We gathered information from a questionnaire, interviews, and file reviews and examined the systems and practices that are used to conduct environmental assessments. To examine the files included in our sample, we used a standard template that included key indicators for compliance based on requirements of the Act.

Screenings (including class screenings) account for approximately 99 percent of all federal environmental assessments; the remaining 1 percent comprises comprehensive studies and panel reviews. In 2003, amendments to the Act modified the requirements for environmental assessment. We selected for review environmental assessment files from the assessments that were initiated between 2003 and 2008. The only files we reviewed from outside this period were some comprehensive studies and some panel reviews; this was to account for the lag time between project approvals and when follow-up programs are implemented and conducted.

The following describes the detailed sampling approach applied at each level of environmental assessment.

Screenings. From a population of 31,924 screening files (2003 to 2008), a representative sample of 54 files (including 9 class screenings) was randomly selected for further analysis. This sample provided a confidence interval of plus 10 percent when generalized to the entire population of 31,924 at a 90 percent level of confidence (sampling parameters were computed using IDEA Data Analysis Software from CaseWare Inc.). The results of the audit work on this sample allowed us to conclude on the application of this type of environmental assessment by the federal government as a whole. It is important to note that specific findings cannot be ascribed to individual departments, as the sampling methodology was not designed for that purpose. This audit work does not allow us to conclude on the performance of individual departments.

Comprehensive studies. Given the size and complexity of comprehensive study files, we limited our review to 12 files. We randomly selected 9 files from among those projects that are undertaking, or should have undertaken, a follow-up program according to the Act, and chose an additional 3 files as cases of specific interest to issues addressed in the chapter. We also limited our selection of files to those entities already identified in the screenings sample. This audit work did not allow us to conclude on the application of this type of environmental assessment by the federal government as a whole, but permitted us to make observations related to this type of environmental assessment.

Panel reviews. There are fewer panel reviews compared with the two other types of environmental assessment. We examined five panel review files. This work did not allow us to conclude on the application of this type of environmental assessment by the federal government as a whole, but permitted us to make observations related to this type of environmental assessment.

The audit scope did not include the following:

- environmental assessments that are conducted in Canada's North, as with few exceptions, the Act does not apply north of 60° latitude. Alternative legislation or agreements are in place to govern the application of federal environmental assessments in the Yukon (Yukon Environmental and Socioeconomic Assessment Act), Nunavut (Nunavut Land Claims Agreement), and most of the Northwest Territories (for example, Mackenzie Valley Resource Management Act);
- First Nation consultation arising from the Crown duty to consult and accommodate First Nations with respect to projects that may potentially impact their constitutionally protected rights;
- federal and provincial harmonization to conduct environmental assessment—the 1998 Canada-wide Accord on Environmental Harmonization and its Sub-agreement on Environmental Assessment provide the foundation for a cooperative approach when both levels of government have environmental assessment responsibilities. To support these commitments, the Agency has negotiated bilateral agreements with several provinces and territories for cooperation on environmental assessments;
- the Major Project Management Office established in 2008; and
- the regulatory package for infrastructure projects under the Canadian Environmental Assessment Act announced in March 2009.

Criteria

Listed below are the criteria that were used to conduct this audit and their sources.

Criteria	Sources		
Federal Coordination and Dispute Resolution			
We expected that the Canadian Environmental Assessment	Canadian Environmental Assessment Act, section 63		
Agency would have established standards for dispute resolution for the preparation of environmental assessments that include timeliness, predictability, and efficiency.	Cabinet Directive on the Implementation of the Canadian Environmental Assessment Act (2005), section 9		
We expected that the Agency would have implemented its	Canadian Environmental Assessment Act, section 63		
standards for dispute resolution.	Cabinet Directive on the Implementation of the Canadian Environmental Assessment Act (2005), section 9		
. Environmental As	sessment Process		
We expected that federal entities would have ensured due consideration of section 16 factors in their screenings, comprehensive studies, and panel reviews.	Canadian Environmental Assessment Act, sections 16 and 16.1		
We expected that federal entities would have a process for undertaking screenings and class screenings to meet the	• Canadian Environmental Assessment Act, sections 5, 11 12, 15, 17 to 20, and 38		
requirements set out in the Canadian Environmental	Exclusion List Regulations		
Assessment Act.	Federal Authorities Regulations		
	Inclusion List Regulations		
	Law List Regulations		
	 Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements 		
	Treasury Board of Canada Secretariat Management Accountability Framework		
We expected that federal entities would have a process for undertaking comprehensive studies to meet the requirements	• Canadian Environmental Assessment Act, sections 5, 11 15, 17, 21 to 28, 37, and 38		
set out in the Canadian Environmental Assessment Act.	Exclusion List Regulations		
	Federal Authorities Regulations		
	Inclusion List Regulations		
	Law List Regulations		
	Comprehensive Study List Regulations		
	Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements		
	Treasury Board of Canada Secretariat Management Accountability Framework		

Criteria	Sources
We expected that federal entities would be involved in the process for undertaking panel reviews to meet the requirements set out in the <i>Canadian Environmental Assessment Act</i> .	• Canadian Environmental Assessment Act, sections 5, 11, 15, 17, 28, 29 to 37, 38, 40, and 41
	Exclusion List Regulations
	Federal Authorities Regulations
	Inclusion List Regulations
	Law List Regulations
	Treasury Board of Canada Secretariat Management Accountability Framework
We expected that federal entities would show that they have ensured implementation of the mitigation measures set out in their environmental assessment reports for screenings, comprehensive studies, and panel reviews.	Canadian Environmental Assessment Act, sections 20 and 37
We expected that federal entities would show that they have implemented their follow-up programs for projects subject to comprehensive studies, panel reviews, and when deemed appropriate, for projects subject to screenings.	Canadian Environmental Assessment Act, section 38
Canadian Environment	al Assessment Registry
We expected that the Canadian Environmental Assessment Agency would have established and maintained an Internet site as per the requirements of the Act.	• Canadian Environmental Assessment Act, sections 55, and 55.1
We expected that federal entities would contribute records to the Registry and maintain project files as per the requirements of the Act.	Canadian Environmental Assessment Act, sections 55, 56 and subsection 71(2)
Quality Assura	ance Program
We expected that the Agency would have established and carried out a quality assurance program for assessments conducted under the Act.	• Canadian Environmental Assessment Act, sections 56.1 and 63
	Cabinet Directive on the Implementation of the Canadian Environmental Assessment Act (2005), section 11

Management reviewed and accepted the suitability of the criteria used in the audit.

Period covered by the audit

The period audited for this chapter spans the coming into force of the Canadian Environmental Assessment Act in January 1995 until June 2009. Review of individual projects was based on a sample of screenings initiated between October 2003 and December 2008, and a sample of comprehensive studies and panel reviews initiated between January 1995 and December 2008.

Audit work for this chapter was substantially completed on 23 June 2009.

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Audit team

Principals: Paul Morse and Richard Arseneault

Director: Francine Richard

Nikoo Boroumand Véronique Dupuis Michelle Gorman Stephanie Kalt Marc-Antoine Ladouceur

Leslie Lapp

For information, please contact Communications at 613-995-3708 or 1-888-761-5953 (toll-free).

Appendix List of recommendations

The following is a list of recommendations found in Chapter 1. The number in front of the recommendation indicates the paragraph number where it appears in the Chapter. The numbers in parentheses indicate the paragraph numbers where the topic is discussed.

Recommendation

Long-standing issues in federal coordination

1.28 The Canadian Environmental Assessment Agency should propose to the Minister of the Environment options for resolving serious, long-standing federal coordination issues, including the scoping of projects and other related issues. (1.16–1.27)

The environmental assessment process

1.45 The Canadian Environmental Assessment Agency should conduct an evaluation of the quality of environmental assessments, in particular for screenings conducted under the Canadian Environmental Assessment Act, including assessing their effectiveness in protecting the environment. (1.38–1.44)

Response

Agreed. The recommendation is consistent with views that have been expressed over the last several years—that there are systemic issues that inhibit the efficient and effective implementation of the Canadian Environmental Assessment Act. The upcoming review of the Act will provide the opportunity for a parliamentary committee to examine the provisions and operation of the Act. In support of this review, the Canadian Environmental Assessment Agency will advise the Minister of the Environment on options for resolving issues, including those identified by the Commissioner of the Environment and Sustainable Development in this audit report. The Agency would also subsequently provide advice and recommendations to the Minister on responding to Parliament's recommendations.

Agreed. The Agency will develop a framework for analysis of the quality of screening reports. The framework will encompass indicators of key aspects of the environmental assessment, including the proposed mitigation measures. A sample of screening reports will be analyzed against the framework on an ongoing basis, and the analysis will be provided to responsible authorities to enable continuous improvement. The sample for analysis will be selective in recognition of the large percentage of screenings that relate to small-scale projects that likely have low potential for significant adverse environmental effects. The results of the analysis will be publicly reported on an annual basis.

Recommendation

Response

1.50 The Canadian Environmental Assessment Agency should complete its collaborative work with responsible authorities on public participation in screenings and provide recommendations for improvement. (1.46–1.49)

Agreed. The Agency will finalize the report on public participation in screenings by the end of 2009.

Quality assurance

1.62 The Canadian Environment Assessment Agency should complete the development of the quality assurance program and implement it. (1.57–1.61)

Agreed. To date, the work of the Agency's quality assurance program has largely been descriptive and has included issues of quality, compliance, and provision of information to support improvements. As the program progresses, the Agency will implement a more systematic approach by setting out the specific issues to be examined, the methods for examining those issues, and time frames for completion. The program will focus on key practices and implementation issues that will inform the 2010 parliamentary review. The results of the analysis will be provided to federal authorities with recommendations to guide continuous improvement and will be reported on publicly.



Report of the Commissioner of the Environment and Sustainable Development—Fall 2009

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2009



Report of the
Commissioner of the
Environment and
Sustainable Development
to the House of Commons

FALL

Chapter 2
Risks of Toxic Substances



Office of the Auditor General of Canada



2009



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Office of the Auditor General of Canada

The Fall 2009 Report of the Commissioner of the Environment and Sustainable Development comprises The Commissioner's Perspective—2009, Main Points—Chapters 1 to 4, an Appendix, and four chapters. The main table of contents for the Report is found at the end of this publication.

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Office of the Auditor General of Canada 240 Sparks Street, Stop 10-1 Ottawa, Ontario K1A 0G6

Telephone: 613-952-0213, ext. 5000, or 1-888-761-5953

Fax: 613-943-5485

Hearing impaired only TTY: 613-954-8042

Email: distribution@oag-bvg.gc.ca

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Chapter

2

Risks of Toxic Substances

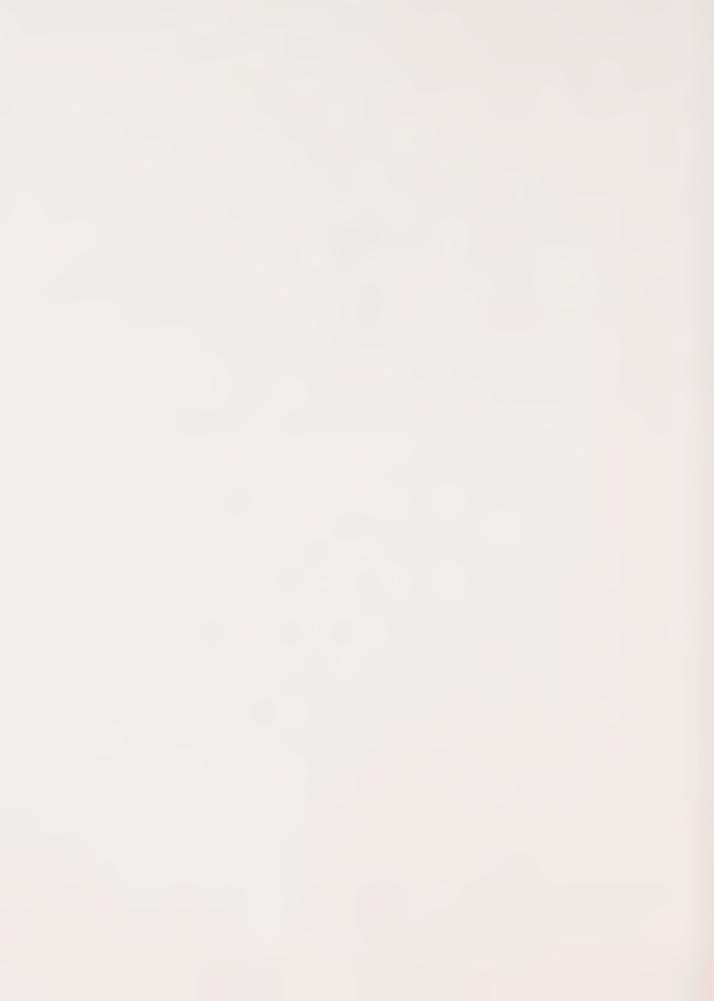


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Risks of Toxic Substances

Main Points

What we examined

Canadians use many types of chemical substances every day that play an important role in modern society. When released into the air, water, or land, however, some of these substances can threaten human health and ecosystems.

The federal government plays an important role in managing chemicals that pose a risk to the environment and human health. The primary tool for doing this is the *Canadian Environmental Protection Act*, 1999 (CEPA 1999). Among other things, CEPA 1999 deals with determining whether existing and new substances are harmful to human health or the environment and managing the risks of those determined to be toxic. The Minister of the Environment and the Minister of Health jointly administer the task of assessing and managing the risks associated with toxic substances.

As of September 2008, there were 85 substances listed as toxic under CEPA 1999. We selected seven of these and examined how Environment Canada and Health Canada have managed the risks they pose to the environment and human health and the measures taken by both departments to control, reduce, and prevent these risks.

The toxic substances we selected (and examples of their uses and sources of emissions) are lead (batteries), mercury (thermometers), bis(2-ethylhexyl)phthalate or DEHP (plastic toys, medical devices), chlorobiphenyls or PCBs (older electrical transformers), dioxins and furans (incineration), dichloromethane (paint removal), and polybrominated diphenyl ethers or PBDEs (electronic equipment).

Audit work for this chapter was substantially completed on 30 June 2009.

Why it's important

The seven selected substances represent a range of risks to the environment and the health of Canadians. Health impacts vary by substance and may include learning disabilities, cancer, respiratory illness, and damage to internal organs. The impacts on fetuses and young children are particularly significant, even at low levels of exposure. Some of these substances may not be obvious to those that

come in contact with them. They may be persistent and can be carried by air and water over long distances, causing damage to the health of humans, wildlife, and ecosystems far from where they are produced and used. It is important that the risks associated with their production and release be assessed and managed to minimize their harmful effects.

What we found

- · Environment Canada and Health Canada have implemented a number of control measures to manage the risks posed by lead and mercury and have also developed strategies for managing risks related to consumer products that may contain these substances. However, there is no consolidated risk management strategy for either substance that indicates the federal government's objectives and priorities for managing the risks. Clearly outlining its objectives and priorities for these substances would help strengthen transparency and accountability.
- · Environment Canada and Health Canada are assessing the performance of a number of the control measures that have been implemented for the toxic substances we examined, and they are taking steps to keep their knowledge of risks up-to-date. However, the departments lack a systematic process for periodically assessing progress made in managing the risks. Periodic assessments would allow department officials and other stakeholders to know how well the risks are being managed, whether actions are sufficient or need to be modified, and whether progress is reasonable and timely.
- While labelling of chemical products in the workplace is required to indicate the hazards of chronic use (such as cancer risks and reproductive toxicity), no similar requirement exists for certain consumer products where multiple or long-term use may pose chronic hazards. Product labels warn consumers of acute hazards such as poisoning and contain instructions on how to safely use the product. However, there is no requirement that labels inform consumers of chronic hazards that may result from multiple or long-term use of the product.
- New biomonitoring initiatives are under way that address a significant gap we identified in our 2002 audit covering toxic substances. These initiatives are part of a broader, more comprehensive approach by Environment Canada and Health Canada to monitoring toxic substances in both humans and the environment. Sustained support for these types of initiatives is important in order to identify progress being made over time in reducing levels of toxic substances.

The departments have responded. The departments agree with all of our recommendations. Their detailed responses follow the recommendations throughout the chapter.

Introduction

Risks to human health and the environment

- **2.1** Canadians use many types of chemical substances every day. Although they play an important role in modern society, when released into the air, water, or land, or when used in consumer products, some of these substances can threaten human health and the environment.
- 2.2 Assessing the risks of toxic substances, including the hazards they present and routes of exposure, and managing those risks is a complex process involving multiple actors (international organizations; federal, provincial, territorial, and municipal governments; academia; industry; and the non-profit sector). In Canada, the federal government plays an important role in managing the risks toxic substances pose, primarily through the *Canadian Environmental Protection Act*, 1999 (CEPA 1999), and through other federal legislation, such as the *Hazardous Products Act*, the *Food and Drugs Act*, and the *Pest Control Products Act*.
- 2.3 The Canadian Environmental Protection Act, 1999, deals with new and existing substances to determine if they are harmful to human health or the environment and to manage the risks of those determined to be toxic. The Minister of the Environment is accountable to Parliament for the administration of all of CEPA 1999. The Minister of the Environment and the Minister of Health jointly administer the task of assessing and managing the risks associated with toxic substances.
- 2.4 As per section 64 of CEPA 1999, a substance is toxic if it enters or may enter the environment in a quantity or concentration or under conditions that
 - have or may have an immediate or long-term harmful effect on the environment or its biological diversity,
 - constitute or may constitute a danger to the environment on which life depends, or
 - constitute or may constitute a danger in Canada to human life or health.
- 2.5 Toxic substances may enter the environment, including indoor environments, in a variety of ways, such as a result of industrial emissions, the use of consumer products, or accidental spills.

Toxic substances and their impact on human ministerial response through our Office. Of over 330 petitions submitted by Canadians, 82 relate

- From the enactment of the Canadian Environmental Protection 2.6 Act in 1988 to September 2008, the federal government had added 85 substances or families of substances (representing approximately 700 chemicals) to the List of Toxic Substances in Schedule 1 of CEPA 1999.
- 2.7 The federal government launched the Chemicals Management Plan (CMP) in December 2006. The CMP aims to improve coordination of the federal government's chemicals management activities by integrating with other federal legislation actions taken under CEPA 1999. An important challenge facing the CMP is the risk assessment of 4,300 chemical substances (to be completed by 2020) and the risk management of those substances considered to be toxic as a result of the assessment process. As of May 2009, 22 of the 51 assessed substances had been determined to be toxic under CEPA 1999 and are in the process of being added to Schedule 1 of the Act.

Managing risks

- Exhibit 2.1 illustrates the process for managing risks of toxic substances. The first step in managing the risks of toxic substances is to determine the potential harm or danger a substance can cause to human health or the environment, and the ways in which humans or the environment can be exposed to the substance. A typical risk assessment examines
 - how a substance is used:
 - how a substance enters the environment, leading to exposure;
 - what type of impact a substance has on human health or the environment;
 - how great an impact a substance has on human health or the environment; and
 - if the substance is listed as toxic under CEPA 1999 and warrants risk management action.
- The second step in managing the risks of toxic substances is to produce a risk management strategy for directing and coordinating multiple risk management actions. With clear objectives, performance expectations, and timelines, these risk management strategies also provide a basis for measuring progress on controlling, reducing, or preventing risks from toxic substances.
- 2.10 The third step in managing the risks of toxic substances is to implement control measures identified in the risk management

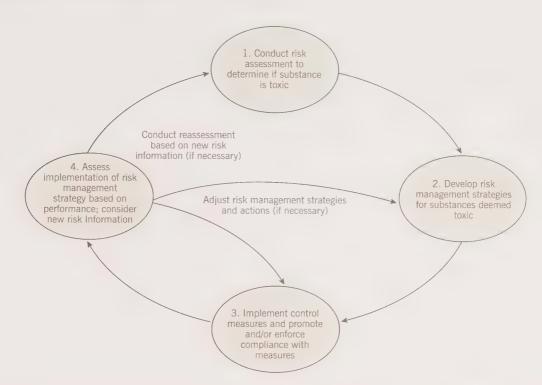


Exhibit 2.1 Managing the risks of toxic substances is an ongoing, integrated process

Sources: Adapted from Toxics Management Process (Government of Canada, 2007), Toxic Substances Management Policy (Environment Canada, 1995), and Risk Management Guidelines for Decision Makers (Canadian Standards Association, 1997, 2007)

Biomonitoring—The measurement, in people, of a chemical, the products it makes after it has broken down, or the products that might result from interactions in the body. These measurements are usually taken from blood and urine and sometimes in other tissues and fluids such as hair, nails, and breast milk. The measurements are to determine how much of a chemical or its elements are present in that person.

strategy. Control measures may be mandatory (such as regulations and pollution prevention plan notices) or voluntary (such as codes of practice and environmental performance agreements). Promoting and enforcing compliance with control measures is an important aspect of the federal government's approach to managing toxic substances.

2.11 The fourth step in managing the risks of toxic substances is to evaluate the implementation of the risk management strategy based on the performance of control measures, new scientific information and knowledge, and environmental and **biomonitoring** data. When necessary, risk management strategies or actions can be changed, to help reduce risks to human health and the environment.

Findings from past audits

2.12 Given the importance of controlling toxic substances, the Commissioner of the Environment and Sustainable Development has examined the risk assessment and management of toxic substances several times in the last 10 years. Two chapters in the May 1999 Report

of the Commissioner of the Environment and Sustainable Development (CESD), Chapter 3, Understanding the Risks From Toxic Substances: Cracks in the Foundation of the Federal House, and Chapter 4, Managing the Risks of Toxic Substances: Obstacles to Progress, concluded that the federal government had been slow to take action on substances that had been declared toxic under CEPA 1999. The chapters raised concerns regarding the federal government's lack of progress in developing and implementing risk management strategies as well as its ability to assess the results of its risk management actions. The chapters also concluded that weaknesses in environmental monitoring were impeding the federal government's ability to measure the effectiveness of risk management initiatives.

2.13 A follow-up audit in the October 2002 CESD Report, Chapter 1, Toxic Substances Revisited, concluded that although the federal government had made some progress, its ability to detect, understand, and prevent the harmful effects of toxic substances was still limited. Chapter 1, Chemicals Management—Substances Assessed under the Canadian Environmental Protection Act, 1999, of the March 2008 CESD Status Report examined the status of risk assessments that were behind schedule at the time of the 2002 audit and concluded that the federal government had made satisfactory progress. It also examined the federal government's plans for conducting risk assessments under the Chemicals Management Plan. In December 2008, the Commissioner released Chapter 1—Managing Air Emissions, a report on air emissions that included the results of a CEPA 1999 pollution prevention plan notice for acrylonitrile and regulations pertaining to benzene. The chapter concluded that Environment Canada could not demonstrate that the results it had reported had actually been achieved or that processes were in place to verify the results reported by the regulatees.

Focus of the audit

- 2.14 The objective of this audit was to determine whether Environment Canada and Health Canada have put in place an adequate risk management regime for seven selected toxic substances—lead, mercury, bis(2-ethylhexyl) phthalate or DEHP, chlorobiphenyls or PCBs, dioxins and furans, dichloromethane (DCM), and polybrominated diphenyl ethers or PBDEs.
- 2.15 We focused on steps two to four of Exhibit 2.1—developing, implementing, and assessing risk management strategies—as the risk assessment process was the subject of the March 2008 CESD Status Report. We expected that Environment Canada and Health Canada

had prepared risk management strategies, were implementing measures to control, reduce, or prevent risks associated with these toxic substances and were promoting and enforcing compliance with these measures. We also expected that the departments were assessing the performance of their control measures and risk management strategies, keeping up to date with new risk-related information, and using this to inform decisions regarding risk management actions.

2.16 The substances selected for this audit were chosen because they have been known to be toxic for an extended period, thus allowing for sufficient time for risk management actions to have been implemented and assessed. These toxic substances also represent a range of risks to human health or the environment and a variety of sources of emissions and exposures, including industrial emissions and exposure through consumer goods, including household products (Exhibit 2.2). CEPA 1999 requires that, once a substance is declared toxic, a control instrument be developed and implemented within three and a half years. As a result, our focus on polybrominated diphenyl ethers (PBDEs) (added in 2006 to the List of Toxic Substances in Schedule 1 of CEPA 1999) was limited to the risk management strategy for this substance.

2.17 More details on the audit objective, scope, approach, and criteria are in **About the Audit** at the end of this chapter.

Exhibit 2.2 These toxic substances represent a range of risks

Substance and date when it was declared toxic under the Canadian Environmental Protection Act	Sources of emissions and exposure	Potential hazards*
Lead 1988	Naturally occurring substance. Emissions result from activities such as metal smelting and processing, coal combustion, and mine waste. Found in some consumer products, such as batteries, children's jewellery, fishing weights, and ammunition.	High blood pressure, kidney damage, nerve disorders, memory and concentration problems, cognitive impairment and learning disabilities in children, difficulties during pregnancy, digestive problems, pain in the muscles and joints. Lead poisoning noted in wildlife.
Mercury 1988	Naturally occurring substance. Emissions result from activities such as electricity generation from coal-burning facilities, and base metal smelting operations. Found in some consumer products, such as compact fluorescent lights, and thermometers. Primary source of human exposure to methyl mercury is through the consumption of fish.	Permanent damage to the brain and kidneys. Damage or irritation of the lungs, stomach, intestines, and airways. Mercury poisoning noted in wildlife.
Polychlorinated biphenyls or PCBs 1988	Found in electrical transformers. Historically used as an additive in selected products such as plastics, paints, cements, and sealants.	Liver and kidney cancer. Impairment of the immune system, motor skills, and short-term memory in children born of women who consumed PCB-contaminated fish.
Polychlorinated dibenzodioxins (dioxins) and polychlorinated dibenzofurans (furans) 1992	By-product of incineration of waste (including industrial, municipal, household, hazardous, and medical waste), production of iron and steel.	Liver problems, impairment of the immune system, the endocrine system, and reproductive functions. Effects on the developing nervous system and other developmental events. Certain types of cancer. May cause a range of negative effects on wildlife such as reproductive failure.
Phthalates (DEHP) 1999	Used as a plasticizer to make polyvinyl chloride (PVC) soft and flexible. Found in industrial, commercial, and consumer plastic products (PVC, medical devices, cleaning products, and soft vinyl toys).	Suspected carcinogen and endocrine disrupter. Suspected problems include developmental and reproductive outcomes in male children.
Dichloromethane 1999	Released during the manufacture of pharmaceuticals and polyurethane foam. Found in adhesives, industrial cleaning processes, and paint strippers.	Possible carcinogen. Neurological functions may be impaired from exposure to high concentrations. Lower doses may cause sluggishness, irritability, light-headedness, nausea, and headaches.
Polybrominated diphenyl ethers (PBDEs) 2006	Fire retardant: Found in electronics, electrical devices, and textiles.	May cause liver, thyroid, and neuro-developmental problems. Secondary poisoning of wildlife that eat prey contaminated with PBDEs.

^{*}Certain health impacts may only result from chronic or high exposure levels. Risks of certain health impacts may be greater in occupational settings.

Source: Environment Canada, Health Canada, United States Environmental Protection Agency, United States Agency for Toxic Substances and Disease Registry

Observations and Recommendations

Risk management strategies

Not all toxic substances we examined are covered by a risk management strategy

- 2.18 Although the Canadian Environmental Protection Act, 1999 (CEPA 1999) does not require a formal risk management strategy for individual toxic substances, guidance from the Treasury Board of Canada Secretariat and the Canadian Standards Association and internal guidance on risk management at Environment Canada and Health Canada emphasize the importance of risk management strategies. We examined the risk management strategies that have been prepared for seven toxic substances selected for our audit—lead, mercury, bis(2-ethylhexyl) phthalate or DEHP, chlorobiphenyls or PCBs, dioxins and furans, dichloromethane, and polybrominated diphenyl ethers or PBDEs.
- **2.19** We expected that risk management strategies were in place and that they contained clear objectives, performance expectations, and timelines. In the absence of risk management strategies, it is difficult to determine what the federal government's overall objectives are for managing a toxic substance, the scope of risk management actions it expects to carry out, its performance expectations, and timelines for measuring progress.
- 2.20 We found that Health Canada and Environment Canada have prepared risk management strategies for four of the seven toxic substances we selected for our audit—DCM (in 1998), DEHP (in 2002), PCBs (internal draft, in 2006), and PBDEs (in 2006 and 2009). These strategies identified sources of emissions or exposure for these toxic substances and, with the exception of the risk management strategy for DEHP, proposed risk management options and contained clear objectives, performance expectations, and timelines. For DEHP, the strategic options report prepared by Environment Canada and Health Canada concluded the following:

Since no readily identifiable link between human exposure and the manufacture and/or use of DEHP-containing plastics has been characterized, it would not be advisable that Environment Canada and Health Canada proceed with further risk management actions at this time. Appropriate risk management actions will be taken under the appropriate legislation following the result of the additional research, if necessary.

- 2.21 Risk management strategies that provide a comprehensive picture of the federal government's approach for managing lead and mercury are not in place. We note that when these substances were added to the List of Toxic Substances in Schedule 1 of CEPA, guidance relating to risk management strategies (and used as sources of criteria for this audit) was not in place.
- 2.22 Dioxins and furans. In Canada, dioxins and furans are managed through a collection of federal control measures, in conjunction with Canada-wide standards entered into by the Canadian Council of Ministers of the Environment. Although a risk management strategy for dioxins and furans has not been prepared yet, Canada's National Implementation Plan under the Stockholm Convention on Persistent Organic Pollutants, which includes objectives, timelines, and reporting requirements, effectively operates as a risk management strategy for these toxic substances.
- 2.23 Lead. Environment Canada and Health Canada have been using a series of regulatory and voluntary control measures targeting selected sources of emissions and exposure to manage the risks posed by lead. This approach has contributed to significant results. For example, Health Canada states that reducing lead in gasoline and paint and virtually eliminating lead solder in food cans has contributed to considerably diminishing Canadians' exposure to lead. Preliminary biomonitoring results from the recent Canadian Health Measures Survey (CHMS) indicate less than one percent of Canadians (aged 6 to 79) have elevated levels of lead in their blood—a significant decline from the 1970s when 25 percent of Canadians (aged 6 and older) had elevated levels of lead in their blood.
- 2.24 The federal government continues to be involved in managing the risks related to the historical and continuing release of lead into the environment from industrial sources and consumer products (for example, base metal smelters and children's jewellery). It also is involved with managing the risks related to the past use of lead from sources such as contaminated sites and lead-based paints in older homes, some of which are not federal responsibilities. Health Canada has a strategy for reducing lead in selected consumer products and it has indicated that, based on new scientific information (Exhibit 2.3), it is developing a risk management strategy for other Health Canada programs. However, we found that there is no risk management strategy in place that provides a comprehensive or consolidated picture of the federal government's approach related to reducing lead exposure.

Exhibit 2.3 Health Canada is assessing new science on the toxicity of lead

Measurements of blood lead levels above $10 \,\mu\text{g/dL}$ (micrograms per decilitre) should result in the consideration of follow-up actions for reducing lead exposure.

In the 1990s, US human health studies indicated a potential correlation between lead levels in blood and a negative impact on children. Health Canada released a final regulation and regulatory impact analysis statement on children's jewellery in 2005. The statement noted that results from a 2000 study indicated that even levels below 5 µg/dL may harm the intellectual development and behaviour of children.

Department officials informed us that, in 2004, they decided the current guidance level of $10~\mu g/dL$ should be reviewed, based on emerging science, to determine if it should be adjusted. Health Canada is finalizing its assessment of lead toxicity and expects to publish its results between late 2009 and early 2010.

- 2.25 Mercury. Environment Canada and Health Canada manage the risks associated with mercury with a combination of regulatory and voluntary tools. Some results are being achieved. For example, preliminary results for Canadians aged 20 to 79 from the Canadian Health Measures Survey indicate that nearly all levels of mercury in blood fell below Health Canada's blood guidance value, the level above which follow-up actions may be considered to reduce exposure. Federal government research indicates that mercury levels continue to be high in some Inuit and wildlife populations in Canada's North.
- 2.26 The federal government continues to be involved in managing the risks associated with mercury, including those related to mercury released into the environment from industrial sources and consumer products. Environment Canada officials stated that the cross-border movement of mercury from foreign sources plays an increasingly important role in exposing Canadians to mercury (especially in Canada's North). Though it remains uncertain, the impact of climate change related to melting ice and permafrost may also be implicated.
- 2.27 Environment Canada has developed a strategy for dealing with products that contain mercury and, in 2009, Canada agreed to negotiate a new United Nations treaty to control mercury pollution. Just as we found for lead, no risk management strategy exists for mercury where Canadians can find the full story describing the federal government's progress to date, and its approach and commitments to tackle the current risks associated with mercury to human health and the environment.

- 2.28 Under the Chemicals Management Plan, proposed risk management documents have been prepared for substances that have recently been determined to be toxic under CEPA 1999. These risk management documents contain background information on the toxic substance (such as the risks it poses and its current uses in Canada) as well as risk management objectives and proposed risk management instruments and tools the federal government is proposing to achieve its risk management objectives. These risk management documents provide a consolidated picture of the federal government's proposed risk management actions that are being considered under CEPA 1999 as well as other federal legislation including those related to food, consumer products, and pesticides.
- 2.29 Because products containing lead and mercury are still prevalent in society and lead and mercury emissions require active management by the federal government, these toxic substances would benefit from today's approach to risk management strategies. Integrated risk management strategies for these toxic substances would allow the federal government to document progress to date, those risks it considers to be under its jurisdiction, the significance of those risks to human health and the environment, and justification for the range of control measures that have been or will be implemented. Such risk management strategies would provide a more consolidated description of the federal government's actions, thereby increasing transparency and creating a basis for accountability.
- 2.30 Recommendation. Environment Canada and Health Canada should prepare and implement risk management strategies for lead and mercury that provide a comprehensive and consolidated description of the federal government's progress to date. These risk management strategies should outline the remaining objectives, priorities, actions under way or planned, timelines, and monitoring programs in effect to address the ongoing risks associated with these toxic substances to human health and the environment.

The departments' response. Agreed. The departments have already taken significant actions to reduce Canadians' exposures to lead and mercury. Today, less than 1 percent of Canadians (aged 6 to 79) have blood lead concentrations above the Canadian guidance level at which follow-up actions may be considered to reduce exposure. This compares to 25 percent of Canadians (aged 6 and older) in the 1970s. From 1970 to 2008, there was a 99.7 percent reduction of lead in air emissions. Mercury emissions have decreased by 90 percent since the 1960s.

Risk management strategies are updated using new science to address current risks according to their relative priority in protecting human health and the environment.

Based on the latest science, Health Canada is finalizing a comprehensive lead toxicological assessment for consultation (expected by mid-2010) and a revised risk management strategy with clear objectives, performance expectations, and timelines (expected by end of 2010) to build on the existing 20 actions for lead.

To further reduce mercury exposure, Environment Canada has strategies for mercury in products, remaining domestic emissions, and emissions from other jurisdictions. These will be compiled into one mercury strategy with clear objectives, performance expectations, and timelines for publication by winter 2009–10.

Environment Canada and Health Canada will incorporate actions addressing both priority ecological and human health impacts.

Control mussions

Control measures are in place or proposed for the toxic substances we examined

- 2.31 Implementing control measures is an important aspect of the risk management cycle. In accordance with the Treasury Board of Canada Secretariat's Assessing, Selecting and Implementing Instruments for Government Action; the Government of Canada's Toxics Management Process; and the Canadian Environmental Protection Act, 1999 (CEPA 1999), we expected Environment Canada and Health Canada to have control measures that address sources of emissions or exposures and risks posed to human health and the environment regarding the toxic substances selected for this audit. We examined Environment Canada and Health Canada's use of regulatory and voluntary measures to control and prevent the risks posed by these toxic substances.
- 2.32 For the toxic substances we examined, Environment Canada and Health Canada have implemented 18 regulations under CEPA 1999, 4 pollution prevention plan notices, and 4 codes of practice. In addition, 18 regulations under other federal legislation (such as the Food and Drugs Act, Hazardous Products Act, and Fisheries Act) are in place. Several other control measures have recently been proposed. The federal, provincial, and territorial governments have also entered into voluntary Canada-wide standards and guidelines through the Canadian Council of Ministers of the Environment (such as standards for mercury emissions for coal-fired electricity generating plants and standards for dioxin and furan emissions from waste incineration).

- 2.33 With the exception of bis(2-ethylhexyl) phthalate (DEHP), the toxic substances we examined are covered by at least one mandatory regulation or pollution prevention plan notice. These regulations and pollution prevention plan notices have been used to address the following key risks to human health and the environment:
 - lead in gasoline;
 - lead in children's jewellery and toys;
 - lead and mercury emissions from base metal smelting;
 - release of mercury from mercury-containing electrical switches from end-of-life or scrap vehicles;
 - releases to water of dioxins and furans from pulp and paper mills; and
 - dichloromethane in various industrial sectors, such as aircraft paint stripping.
- 2.34 A regulation pertaining to the release of mercury from consumer products was proposed in 2007, but it has not yet been implemented. The use of lead shot for hunting and lead fishing weights (50 grams or less) has been prohibited on federal lands; however, except for the use of lead shot for hunting migratory waterfowl, there are no Canada-wide controls on these products.
- In the case of DEHP and other selected phthalates, in 1998, Health Canada issued voluntary guidance to industry regarding the use of certain phthalates in the production of products intended to be mouthed by children (such as teethers and pacifiers). A voluntary guide on the safe manufacture of children's toys was prepared by the Department and released in 2006. In June 2009, regulations were proposed under the Hazardous Products Act to prevent the use of six phthalates, including DEHP, in soft vinyl toys and child-care articles. These regulations would harmonize Canada's management of phthalates in children's toys and child-care articles with those of the United States and the European Union. Health Canada also added DEHP to the Cosmetic Ingredient "Hotlist" (a list of substances that are restricted and prohibited in cosmetics under the Food and Drugs Act). Health Canada has also published a draft position paper on managing the risks related to the use of DEHP in medical devices, such as plastic tubing and bags used to administer blood.

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The labelling of chronic hazards from toxic substances contained in consumer products continues to be discussed

- **2.36** Labelling is a control measure that can be useful in informing consumers of the presence of toxic substances in products they purchase. Regarding two of the toxic substances we examined—dichloromethane and lead—labels for consumer products that may contain these substances do not fully inform consumers of the potential hazards these products may pose.
- 2.37 Regarding dichloromethane (DCM), labelling can play a role in informing consumers of the existence of this toxic substance in retail paint strippers, aerosols, and aerosol paints. Environment Canada and Health Canada identified inhalation of fumes from these products as a source of exposure to DCM. Health Canada notes that scientists believe prolonged exposure to DCM could cause cancer in humans. When the strategic options report on DCM was released in 1998, it recommended that paint strippers and aerosol products sold for consumer use that contain DCM be labelled to identify the chronic toxicity and possible carcinogenicity associated with the improper use of these products. Labelling of products containing DCM was expected to decrease the use and emissions of this toxic substance in these products by 20 percent.
- 2.38 The strategic options report also recommended that labelling be implemented when future labelling requirements under the Consumer Chemicals and Containers Regulations, 2001, of the Hazardous Products Act adopt toxicity criteria. The report further recommended that if a labelling program for paint strippers was not implemented through the Consumer Chemicals and Containers Regulations, 2001, the program should be implemented pursuant to the Canadian Environmental Protection Act, 1999.
- 2.39 The Consumer Chemicals and Containers Regulations, 2001, requires classification and labelling of consumer chemical products, such as paint strippers. The product label is to inform consumers of inherent hazards associated with unintentional exposure to the product contents, and provides safe handling instructions to minimize risks related to acute hazards. The existing labelling requirements do not require informing consumers about the chronic hazards such as possible carcinogenicity associated with certain toxic substances found in these products. However, we note that Health Canada has released a pamphlet on the safe use of paint strippers, and DCM is listed as an ingredient in paint strippers.

Acute hazards—Adverse effects, such as poisoning, eye, or skin irritation, from a single or short-term exposure to a toxic substance.

Chronic hazards—Adverse effects, such as cancers or reproductive toxicity, from multiple or long-term exposure to a toxic substance.



- 2.40 One barrier to labelling a product for chronic hazards is the debate about what approach to take. The hazard-based approach labels a product simply because it contains a substance that poses a chronic hazard, regardless of a consumer's level of exposure to the substance. The risk-based approach labels a product for the likelihood of injury occurring based on the hazard and the expected consumer exposure and normal use of the product. The effectiveness of labelling consumer products for chronic hazards is also debated. We note that information on and labelling of acute and chronic hazards, such as carcinogenicity, as well as worker training, is required for chemical products in the workplace, where levels and duration of exposure are greater than those typically faced by consumers.
- **2.41** To address the issue of labelling acute and chronic hazards related to consumer chemical products, Health Canada has participated in the international Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The GHS also relates to pest control products, workplace chemicals, and products regulated under the transportation of dangerous goods. Efforts to develop the GHS began after the 1992 United Nations Earth Summit, when a commitment was made to harmonize the classification and labelling of chemicals by 2000, if feasible. The Plan of Implementation, adopted at the 2002 World Summit on Sustainable Development, encouraged countries to implement the GHS by 2008. Although the United Nations released the first edition of the GHS in 2003, full implementation of the GHS has not yet occurred in Canada, nor is there a definite date for this to happen. Health Canada has indicated that one of the guiding principles for GHS implementation in Canada is the harmonization, to the greatest extent possible, with the United States, Mexico, and other trading partners (the European Union recently introduced regulations to align its previous legislation to the GHS on classification, labelling, and packaging of chemicals). It is important to note that once the GHS is incorporated into the Consumer Chemicals and Containers Regulations, 2001, it would apply only to consumer chemical products—for example, solvents and cleaning products, but not to general consumer products that may contain a toxic substance, including those selected for this audit, for example, DEHP, PBDEs, lead, and mercury.
- 2.42 Inexpensive jewellery, including children's jewellery, is one consumer product that has been found to contain hazardous levels of lead. In 1999, a five-year-old child was found to have elevated blood lead levels following exposure to lead in an item of children's jewellery. In response to this, Health Canada sought the voluntary assistance of

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manufacturers, distributors, importers, and retailers to refrain from selling lead-containing children's jewellery and to use labelling to warn consumers of the presence and hazards of lead in jewellery meant for children aged 15 years and older and adults. In 2000 and 2001, Health Canada conducted targeted marketplace surveys of products suspected to contain lead and found that the voluntary measures had been ineffective in removing lead-containing jewellery from the Canadian marketplace. During the Department's inspection activities, the recommended warning label for lead in jewellery was observed only once.

- 2.43 In the late 1990s, Health Canada began work to introduce regulatory limits for jewellery items for children younger than 15 years. Health Canada also considered requiring that all lead-containing jewellery have a label warning of its lead content attached to the jewellery itself or to its packaging, or displayed next to the jewellery, as part of the proposed Children's Jewellery Regulations under the Hazardous Products Act. During consultations on the proposed regulations, retailers believed such labels would be a considerable disincentive to the consumer; it was also determined that labels posted next to or directly on the product would not be effective. The Department decided not to use warning labels. Instead, when the Children's Jewellery Regulations came into force in 2005, the Department set specific limits for lead content (children's jewellery containing lead above the set limits have since been added as a prohibited product under the Hazardous Products Act and the regulations have been repealed).
- 2.44 Health Canada continues to conduct targeted testing of products suspected to contain lead to determine if they are in compliance with the regulations. These marketplace tests show that there continues to be children's jewellery on the market that contains hazardous levels of lead; however, because the tests focus on samples expected to contain lead, the results are not representative of the overall marketplace compliance rates (that is, the percentage of total items in the marketplace that contain lead). The Department is also undertaking efforts, such as working with foreign suppliers, to prevent foreign products from entering Canada that do not meet Canadian lead-content requirements. For those products that contain lead above the regulated limits, Health Canada lacks powers that would allow it to issue mandatory product recalls; rather, it must negotiate voluntary recalls with industry. We note that Bill C-6, the Canada Consumer Product Safety Act, which was being considered by Parliament at the time of our audit and is a key component of the Government of

Canada's Food and Consumer Safety Action Plan, would provide Health Canada with powers to issue mandatory recalls.

Not all control measures are subject to active compliance promotion and enforcement

- 2.45 Regulations, pollution prevention plan notices, and voluntary control measures are aimed at controlling, reducing, or preventing emissions of and exposures to toxic substances. Compliance promotion and enforcement are important aspects in ensuring that regulations and control measures achieve their objectives. Compliance promotion involves the development and delivery of information to those people or industries that are subject to the control measures developed under CEPA. Enforcement involves activities such as intelligence gathering, inspections to verify compliance, responding to complaints, investigations, and follow-up activities such as issuing warnings and legal proceedings. We examined the extent to which Environment Canada was promoting and enforcing compliance with the CEPA-related control measures in place to manage the risks of the substances we examined.
- **2.46** In regard to all of the toxic substances listed in Schedule 1 of CEPA 1999, Environment Canada is currently responsible for enforcing and promoting compliance with 46 regulations, 8 pollution prevention plan notices, 6 environmental protection agreements, 25 codes of practice, and 49 guidelines. It is also responsible for enforcing 6 regulations under the Fisheries Act as well as regulations related to wildlife-related legislation. At the time of our audit, Environment Canada employed approximately 290 enforcement officers, 193 of whom were responsible for enforcing measures related to pollution, with the balance dedicated to wildlife enforcement. Budget figures for activities specific to the toxic substances we examined were not available. We note that the number of control measures the Department is responsible for has increased in the last decade. This growth will likely continue due to additional substances being added to the List of Toxic Substances in Schedule 1 of CEPA 1999 as a result of the 4,300 risk assessments currently being undertaken as part of the Chemicals Management Plan.
- 2.47 Given the resources expended, compliance promotion and enforcement activities, the number of control measures involved, and the risks associated with each control measure, Environment Canada does not exert a uniform level of effort promoting or enforcing compliance across all of the control measures for which it is responsible. Accordingly, the Department prioritizes its work, taking

into consideration factors such as risks to human health and the environment, historic compliance rates, and international commitments. The Department's Environmental Protection Board approves the results of this process. Only a limited number of the control measures related to the toxic substances we examined in this audit have been considered a priority for compliance promotion and enforcement actions. For most of the control measures, compliance promotion and enforcement actions are mainly reactive in nature, responding to referrals, complaints, inquiries, and incidents.

- 2.48 Parliamentarians and the public need timely information on which control measures have and have not been actively promoted and enforced. Otherwise, there is a risk that people will be left with the incorrect assumption that all control measures to manage the risks of toxic substances are actively promoted and enforced. Disclosing priorities and non-priorities—and the rationale for not actively enforcing these control measures—would provide a more complete and transparent picture of the Department's compliance and enforcement actions. In certain cases, it may be reasonable that some control measures are not priorities, for example, the industry being regulated may have changed significantly, making the regulation or control measure less relevant.
- 2.49 The Canadian Environmental Protection Act, 1999, requires that the Minister of the Environment prepare and table in Parliament, as soon as possible after the end of each fiscal year, a report on the administration and enforcement of the Act. At the time of our audit, the 2006–07, 2007–08, and 2008–09 CEPA 1999 annual reports had not been tabled. The most recent CEPA 1999 annual report, 2005–06, clearly identified the regulations that Environment Canada considered priorities for enforcement action. However, the report did not identify control measures that were not priorities. Nor did the report identify the reasons for not actively enforcing these control measures or the potential consequences of not enforcing them. In addition, the compliance rates related to the priority control measures were also not reported.
- **2.50** Recommendation. Environment Canada should release the outstanding Canadian Environmental Protection Act, 1999 annual reports and ensure that future reports are released in a timely manner. In these reports, Environment Canada should present a complete and transparent picture of its previous year's compliance promotion and enforcement activities and related results, including compliance rates.

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Environment Canada's response. Agreed. Environment Canada's Canadian Environmental Protection Act, 1999 (CEPA 1999) Annual Report covers actions and accomplishments within the scope of the Act, including research, enforcement, administration of the Act and progress on issues such as the management of chemical substances. Most of these activities are also reported on the CEPA Environmental Registry, which is maintained daily as required. The Department will ensure that the CEPA 1999 annual reports are completed in a timely manner. By early 2010, Environment Canada, with the support of Health Canada, will be up-to-date with tabled reports and from then on will table reports annually in the fall.

Environment Canada has identified compliance rates as an important component of its Strategic Enforcement Framework, which defines performance indicators for various toxic substances, and will continue work on the determination of compliance rates for reporting in future annual reports.

Performance assessment

Performance of a number of control measures is being assessed

- 2.51 Once a control measure has been put in place, it is important to assess its performance, including levels of compliance and its impact on reducing emissions or exposure to toxic substances. Performance assessment helps department officials know whether a control measure is achieving results, whether progress is on track, and whether additional action is required. We examined whether Environment Canada and Health Canada had assessed control measures to determine if they were achieving intended objectives. Our focus was those control measures under the Canadian Environmental Protection Act, 1999 (CEPA 1999) that target the toxic substances we examined as well as children's jewellery under the Hazardous Products Act. We further examined whether the departments used information from performance assessments to inform and improve their risk management actions.
- 2.52 We found that Environment Canada and Health Canada were assessing the performance of a number of the control measures we examined. We noted that the current process assesses each control measure independently, rather than comprehensively by toxic substance. A variety of methods have been used to assess performance such as formal evaluation and review, progress reporting on pollution prevention plan notices, compliance monitoring, and the use of monitoring data. The results of these performance assessments present a mixed description of how control measures are achieving their

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objectives. In some cases, the measure performed unsatisfactorily, leading to changes in the way the toxic substance is managed (Exhibit 2.4). In other cases, such as regulations pertaining to releases to water of dioxins and furans from pulp and paper mills and lead in gasoline regulations, the departments conclude that the control measures have contributed positively to reductions in emissions. For selected control measures such as the new polychlorinated biphenyls (PCB) regulations, the proposed bis(2-ethylhexyl) phthalate (DEHP) regulations, and recently introduced pollution prevention plan notices, it is too early to expect them to have been assessed.

Exhibit 2.4 Assessing performance of control measures has resulted in new approaches to managing risks

PCBs. The United Nations Stockholm Convention on Persistent Organic Pollutants commits Canada to make determined efforts to eliminate the use of PCBs in equipment by 2025. When Environment Canada assessed the state of PCBs in Canada, it determined that the existing regulatory regime for controlling PCBs would not allow Canada to meet its obligations under the Convention. As a result, a new regulatory regime, reflected in the 2008 PCB regulations, was implemented. This regulatory regime is expected to eliminate PCBs in equipment (in concentrations at or above 50 mg/kg) from use and storage by 2025.

Mercury. Research shows that mercury from dental practices is released into waste water every year. The Canadian Council of Ministers of the Environment developed a Canada-wide standard, the objective of which was for 95 percent of dentists in Canada to modify their procedures in order to remove mercury from their waste stream. In 2007, a survey showed that 70 percent of dentists were complying. In April 2009, acting on this information, Environment Canada published a proposed notice requiring that dentists who have not implemented this standard develop pollution prevention plans.

Environment Canada and Health Canada do not have formal processes for tracking new information and emerging risks

- 2.53 Given that scientific information and research is not static, it is important for Environment Canada and Health Canada to keep up to date with new information regarding toxic substances, such as hazards and routes of exposure. Although re-assessing substances already deemed toxic is not required under CEPA 1999, we expected that Environment Canada and Health Canada were keeping current with new knowledge. Keeping current helps to minimize the risk of missing new and significant information that may otherwise inform and, if necessary, change risk management actions.
- 2.54 We found that Environment Canada and Health Canada do not have a formal process for assessing new information on the substances we examined. Nor do they have specific criteria for determining if or when risk management actions should be changed based on new

information such as new toxicity studies for a substance or significant changes in the quantities used or released to the environment. We made similar observations in our 1999 audit on managing the risks of toxic substances. In order to support the assessment process, including the reassessment of substances, Environment Canada and Health Canada undertake their own research projects and studies on toxic substances and track new scientific research. As well, officials from both departments monitor and attend scientific conferences and exchange information with international partners on a formal and informal basis. Environment Canada and Health Canada also have a number of processes for tracking new information as a result of provisions in CEPA 1999. For example, section 70 requires a person to inform the ministers of Health and the Environment if they obtain information that reasonably supports the conclusion that a substance they are using is toxic or capable of becoming toxic, and section 75 requires the Minister of the Environment to develop, to the extent possible, procedures for exchanging information with other jurisdictions.

2.55 PCBs in building sealants. The release of an updated State of the Science Report on deca-BDE (a form of polybrominated diphenyl ether (PBDE)) by Environment Canada, in early 2009, and Health Canada's response to new science on the toxicity of lead are two examples of how these departments have identified and responded to new scientific research. One issue that these departments have not fully addressed is the historic use of PCBs in building sealants. To enhance durability and elasticity, this substance was added to sealants and caulking and used in the construction of buildings such as schools, hospitals, office buildings, and residential buildings between the 1950s and mid-1970s. Regulated in Canada since 1977, the use of PCBs in such products is now prohibited. The disposal of PCBs in waste products, including caulking and paint, has also been regulated. However, research conducted by a number of different organizations since the 1990s indicates that the use of PCBs in sealants may represent a source of ongoing exposure to low-levels of PCBs, present risks to workers restoring or demolishing these structures, and result in localized soil contamination and contaminated waste. We found that neither Environment Canada nor Health Canada has responded to this research, for example, by conducting research to determine the existence and significance of PCBs in building sealants, including federal facilities and buildings on federal lands. We note that several members of the Stockholm Convention have recognized this issue.

Monitoring of toxic substances is becoming more comprehensive

- 2.56 We expected that Environment Canada and Health Canada were monitoring the releases of toxic substances and their presence in humans and wildlife to understand the progress made on managing toxic substances. Information on the presence of toxic substances in humans can help physicians, policy makers, and regulators identify opportunities to reduce exposure and health risks. Trends are important as they can provide information on progress in protecting human health and the environment.
- 2.57 In our 2002 audit on toxic substances, we noted the lack of knowledge about levels of toxic substances found in the bodies of Canadians (for example, in breast milk and blood). We also noted that Health Canada did not have a program to evaluate this kind of information nationally, although it has done some regional studies of a few specific toxic substances.
- **2.58** Health Canada has launched several major studies to better assess the presence of toxic substances in Canadians that will provide important baseline data for assessing whether efforts on managing toxic substances are resulting in better health.
- 2.59 One such study is the 2007 Canadian Health Measures Survey (CHMS). Undertaken by Statistics Canada in partnership with Health Canada, the study is testing 5,500 people, randomly chosen across Canada, over two years (2007 to 2009) to determine the level of toxic substances, such as lead, mercury, PBDEs, and phthalates, in their blood (biomonitoring). Health Canada notes that the current design of the CHMS is representative of 96 percent of the Canadian population aged 6 to 79. Although the first cycle of the CHMS excludes children under six, the next cycle is expected to include children aged three to five. Additional biomonitoring studies focusing on children are also in progress. Residents of Indian reserves are excluded from the CHMS; however, a First Nations biomonitoring program has been initiated by Health Canada to cover this population group.
- 2.60 Another important study is the 2007 Maternal-Infant Research on Environmental Chemicals (MIREC). This five-year study is testing 2,000 women and their newborn babies for toxic substances, such as lead and mercury. Although it was conceived as a longitudinal study, thus requiring ongoing funding, only the first phase is currently funded. Consideration is being given to exploring ways to acquire ongoing funding.

2.61 Environment Canada and Health Canada are implementing a broader, more comprehensive approach to monitoring toxic substances, of which the CHMS, MIREC, and other biomonitoring studies are a part. Other studies under way or under development include monitoring leachate from landfill sites, monitoring municipal waste water effluent, and studying the presence of toxic substances in Canadian homes (Canadian House Dust Study) (Exhibit 2.5).

Exhibit 2.5 Toxic substances are present in household dust

Several studies have shown that household dust plays a role in exposing people to toxic substances. Toxic substances such as lead, mercury, PBDEs, phthalates, and PCBs are present in household dust in countries around the world.

Products within the home, from electronic equipment and plastic toys to household cleaners, may contain toxic substances that are released when the product is used or breaks down. These substances, some of which bond with dust particles, can be inhaled or ingested, especially by young children.

Health Canada launched a four-year Canadian House Dust Study in 2007 to look at background levels of chemicals in house dust from 1,040 randomly selected houses in 13 cities. Sampling is to be completed in 2010. To date, the study has primarily focused on lead in house dust. A number of other substances are also expected to be measured.

- 2.62 These studies are in addition to existing monitoring and research initiatives, such as Health Canada's Total Diet Study; regional monitoring programs, such as in the Great Lakes and Canada's North; and Environment Canada's monitoring of contaminants in wildlife.
- 2.63 The National Pollutant Release Inventory (NPRI) is an important tool in the federal government's monitoring program. The NPRI is used to assess the performance of control measures and to help increase public understanding of pollutant releases in Canada. The NPRI, which contains data from facilities that meet certain reporting thresholds, identifies who is releasing pollutants, the types of pollutants, and the communities in which the pollutants are found. A separate audit on the NPRI was conducted concurrently by the Commissioner of the Environment and Sustainable Development and is contained in Chapter 3 of this report.

A more formal and timely process for assessing risk management strategies is needed

2.64 Having processes in place to assess the overall progress made on risk management strategies is important as it provides an opportunity to take a comprehensive view of how toxic substances are being managed, facilitates continual improvement, and is integral to the overall process of managing risks. We examined whether Environment Canada and Health Canada had processes in place that provided for periodic assessments of progress on risk management strategies and related risk management actions for selected toxic substances. We observed that the departments are assessing the performance of certain control measures. However, we found that they do not have processes in place that periodically assess overall progress against the objectives set out in the existing risk management strategies for the toxic substances we examined. Periodic reviews that are documented and demonstrate the involvement of senior management would provide greater assurance that the departments are considering important questions, such as the sufficiency and success of risk management actions, whether new risk management actions or changes to existing control measures are required, and whether risk management strategies need to be updated. Incorporating information on new research (for example, the use of PCBs in sealants) and the results of monitoring and actions taken by other jurisdictions would provide a more comprehensive assessment of progress made on managing toxic substances.

2.65 Several observations made during our audit raised questions about the timeliness of federal government actions, which is also important to consider when assessing progress. For example, DEHP was assessed as toxic in 1994 but was not added to the List of Toxic Substances in Schedule 1 of CEPA 1999 until 1999, and proposed regulations pertaining to DEHP and five other phthalates were only introduced 15 years after DEHP was assessed as toxic. As noted in paragraph 2.35, some voluntary measures were taken in the interim. A Health Canada working group paper from 2002 noted environmental waste containing phthalates as a priority, but no actions have yet been taken. Progress on labelling consumer chemical products for acute hazards and safe handling instructions has been made; however, the labelling of these products for chronic hazards has not yet occurred. Even though research from the 1990s indicated that children may be more susceptible to lower levels of lead than previously thought, regulated limits on lead in children's jewellery came into force only in 2005 following voluntary measures.

Recommendation. Environment Canada and Health Canada should ensure that the implementation of risk management strategies are periodically assessed, documented, and reviewed by senior management. Specific criteria should be put in place to prompt earlier assessments if warranted by new information.

The departments' response. Agreed. The departments have assessed and refined risk management strategies. Since 2008, the government

has required performance frameworks for all high-impact regulations. Both departments are complying with this directive including substances regulated under the Chemicals Management Plan, and will consider applying the government standard more broadly to all new instruments, not just those demonstrating a high impact. The departments will develop specific criteria for this broader application of performance frameworks by fall 2010.

The departments already have information sources in place to help

Conclusion

- This audit examined Environment Canada and Health Canada's management of seven substances declared toxic under the Canadian Environmental Protection Act, 1999. The departments have implemented or proposed a range of control measures to address important sources of emissions and exposure related to these toxic substances. In addition, the departments have been assessing the performance of a number of these control measures and have established biomonitoring and environmental monitoring initiatives that, if sustained over the long term, will generate important information for determining the success of risk management actions and identifying where additional actions may be required. For these reasons, we conclude that the risk management regime adopted is adequate. At the same time, we identified important areas for improvement that need to be addressed, particularly the preparation and periodic assessment of risk management strategies.
- An area for improvement relates to the use of risk management strategies for lead and mercury. Although managed for over 30 years, these two toxic substances do not have risk management strategies that provide a consolidated picture of the federal government's objectives and priorities for managing these toxic substances. Clearly outlining its objectives and priorities for these substances would help strengthen management of these substances as well as transparency and accountability.
- 2.69 An important gap in the risk management regime is the labelling of chronic hazards associated with the use of chemical consumer products. One of the toxic substances we examined, dichloromethane, is used in paint strippers. Existing labels for paint strippers indicate the

presence of dichloromethane, inform users of acute hazards associated with the product (for example, poisoning), and contain instructions on how to safely use the product. However, they do not warn consumers that the product contains a substance that is inherently toxic and possibly carcinogenic.

- 2.70 Health Canada, along with other federal partners, has begun several major biomonitoring studies to assess the presence of toxic chemicals in Canadians that will provide important baseline data for assessing whether efforts related to the management of toxic substances are resulting in better health outcomes. These biomonitoring initiatives are part of a broader, more comprehensive approach to monitoring toxic substances being implemented by Environment Canada and Health Canada as part of the Chemicals Management Plan.
- 2.71 Environment Canada and Health Canada are assessing the performance of a number of the control measures they have implemented and are taking steps to keep their knowledge of risks up to date. However, the departments lack a systematic process for periodically consolidating this information and assessing overall progress made in managing the substances we examined. Periodic assessments would allow department officials and other stakeholders to know how well the risks of these toxic substances are being managed, whether control measures are sufficient, whether overall progress is reasonable and timely, and whether changes to risk management actions and strategies are required.

About the Audit

All of the audit work in this chapter was conducted in accordance with the standards for assurance engagements set by The Canadian Institute of Chartered Accountants. While the Office adopts these standards as the minimum requirement for our audits, we also draw upon the standards and practices of other disciplines.

Objective

The objective of this audit was to determine whether Environment Canada and Health Canada have implemented an adequate risk management regime for selected toxic substances.

Scope and approach

We examined the following seven substances from the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999 (CEPA 1999):

- · lead.
- · mercury,
- bis(2-ethylhexyl) phthalate [also known as di(2-ethylhexyl) phthalate or DEHP],
- chlorobiphenyls (polychlorinated biphenyls or PCBs),
- polychlorinated dibenzodioxins (dioxins) and polychlorinated dibenzofurans (furans),
- · dichloromethane (DCM), and
- polybrominated diphenyl ethers (PBDEs).

These toxic substances were selected for this audit because they represent a range of risks to Canadians and a variety of sources of exposure, including industrial emissions and consumer goods, including household products. Not only do these toxic substances affect human health or the environment, but they may also persist in the environment. There has also been sufficient time to implement and assess the results of risk management actions related to these substances. CEPA 1999 requires that, once a substance is declared toxic, a control instrument be developed and implemented within three and a half years. As a result, our focus on PBDEs (which in 2006 were added to the List of Toxic Substances in Schedule 1 of CEPA 1999) was limited to the risk management strategy for this toxic substance. We did not examine the conduct of risk assessments to determine if a substance is toxic as this was the subject of the Commissioner's March 2008 Report. Our audit work consisted of interviews with Environment Canada and Health Canada officials (to determine how the departments reviewed, evaluated, promoted, and enforced compliance with the respective preventive and control measures) and various stakeholders, including environmental non-government organizations, industry, selected international organizations, and academia. We also reviewed documentation from Environment Canada and Health Canada related to the toxic substances we examined.

Criteria

Listed below are the criteria that were used to conduct this audit and their sources.

Criteria	Sources				
We expected that Environment Canada and Health Canada would have prepared strategies for managing the risks of	Canadian Environmental Protection Act, 1999 • Section 2(j), Administrative Duties				
selected toxic substances that contain clear objectives, performance expectations, and timelines for controlling, reducing, or preventing risks.	 Part 4, Pollution Prevention Part 5, Controlling Toxic Substances 				
We expected that Environment Canada and Health Canada would be implementing control measures that address risks and sources of emissions or exposures identified as part of the risk assessment phase and promoting compliance with these control measures.	Part 7, Controlling Pollution and Managing Wastes Environment Canada, Toxics Management Process (2007) Responsibilities in the Toxics Management Process				
We expected that Environment Canada and Health Canada would be assessing implementation of their strategies for managing the risks of selected toxic substances (including the coverage and performance of its control measures as well as new and emerging information on risks) and using this information to inform and improve its risk management actions.	 The Risk Management Strategy Management Tools including Instruments Environment Canada, Toxic Substances Management Policy (1995) 				
	Track 1—Virtual EliminationTrack 2—Life-cycle Management				
	Treasury Board of Canada Secretariat, Assessing, Selecting, and Implementing Instruments for Government Action (2007), steps 2 to 7 Canadian Standards Association, Risk Management: Guideline for Decision Makers (CAN/CSA-Q850-97 (R2009)) Treasury Board of Canada Secretariat, Preparing and Using Results-based Management and Accountability Frameworks (2005), sections 1.1 and 1.3				
					Treasury Board of Canada Secretariat, Results for Canadians: A Management Framework for the Government of Canada (2000), Section B: Four Management Commitments, pages 5 and 6

Management reviewed and accepted the suitability of the criteria used in the audit.

Period covered by the audit

Our audit examined risk management actions undertaken since the time the substances were added to the List of Toxic Substances in Schedule 1 of CEPA. However, our focus was primarily on risk management actions taken since 1999.

Audit work for this chapter was substantially completed on 30 June 2009.

Audit team

Principal: Jim McKenzie

Lead auditor: Roger Hillier

Zakia Ammari Catherine Johns Jean Marie Rulinda Johanne Sanschagrin

For information, please contact Communications at 613-995-3708 or 1-888-761-5953 (toll-free).

Appendix List of recommendations

The following is a list of recommendations found in Chapter 2. The number in front of the recommendation indicates the paragraph number where it appears in the chapter. The numbers in parentheses indicate the paragraph numbers where the topic is discussed.

Recommendation

Response

Risk management strategies

2.30 Environment Canada and Health Canada should prepare and implement risk management strategies for lead and mercury that provide a comprehensive and consolidated description of the federal government's progress to date. These risk management strategies should outline the remaining objectives, priorities, actions under way or planned, timelines, and monitoring programs in effect to address the ongoing risks associated with these toxic substances to human health and the environment. (2.18–2.29)

Agreed. The departments have already taken significant actions to reduce Canadians' exposures to lead and mercury. Today, less than 1 percent of Canadians (aged 6 to 79) have blood lead concentrations above the Canadian guidance level at which follow-up actions may be considered to reduce exposure. This compares to 25 percent of Canadians (aged 6 and older) in the 1970s. From 1970 to 2008, there was a 99.7 percent reduction of lead in air emissions. Mercury emissions have decreased by 90 percent since the 1960s.

Risk management strategies are updated using new science to address current risks according to their relative priority in protecting human health and the environment.

Based on the latest science, Health Canada is finalizing a comprehensive lead toxicological assessment for consultation (expected by mid-2010) and a revised risk management strategy with clear objectives, performance expectations, and timelines (expected by end of 2010) to build on the existing 20 actions for lead.

To further reduce mercury exposure, Environment Canada has strategies for mercury in products, remaining domestic emissions, and emissions from other jurisdictions. These will be compiled into one mercury strategy with clear objectives, performance expectations, and timelines for publication by winter 2009–10.

Environment Canada and Health Canada will incorporate actions addressing both priority ecological and human health impacts.

Recommendation

Response

Control measures

2.50 Environment Canada should release the outstanding Canadian Environmental Protection Act, 1999 annual reports and ensure that future reports are released in a timely manner. In these reports, Environment Canada should present a complete and transparent picture of its previous year's compliance promotion and enforcement activities and related results, including compliance rates. (2.31–2.49)

Agreed. Environment Canada's Canadian Environmental Protection Act, 1999 (CEPA 1999) Annual Report covers actions and accomplishments within the scope of the Act, including research, enforcement, administration of the Act and progress on issues such as the management of chemical substances. Most of these activities are also reported on the CEPA Environmental Registry, which is maintained daily as required. The Department will ensure that the CEPA 1999 annual reports are completed in a timely manner. By early 2010, Environment Canada, with the support of Health Canada, will be up-to-date with tabled reports and from then on will table reports annually in the fall.

Environment Canada has identified compliance rates as an important component of its Strategic Enforcement Framework, which defines performance indicators for various toxic substances, and will continue work on the determination of compliance rates for reporting in future annual reports.

Performance assessment

2.66 Environment Canada and Health Canada should ensure that the implementation of risk management strategies are periodically assessed, documented, and reviewed by senior management. Specific criteria should be put in place to prompt earlier assessments if warranted by new information. (2.51–2.65)

Agreed. The departments have assessed and refined risk management strategies. Since 2008, the government has required performance frameworks for all high-impact regulations. Both departments are complying with this directive including substances regulated under the Chemicals Management Plan, and will consider applying the government standard more broadly to all new instruments, not just those demonstrating a high impact. The departments will develop specific criteria for this broader application of performance frameworks by fall 2010.

The departments already have information sources in place to help determine if there are risks that current risk management strategies are not addressing. Environment Canada and Health Canada will further elaborate and document this process and criteria.

Report of the Commissioner of the Environment and Sustainable Development—Fall 2009

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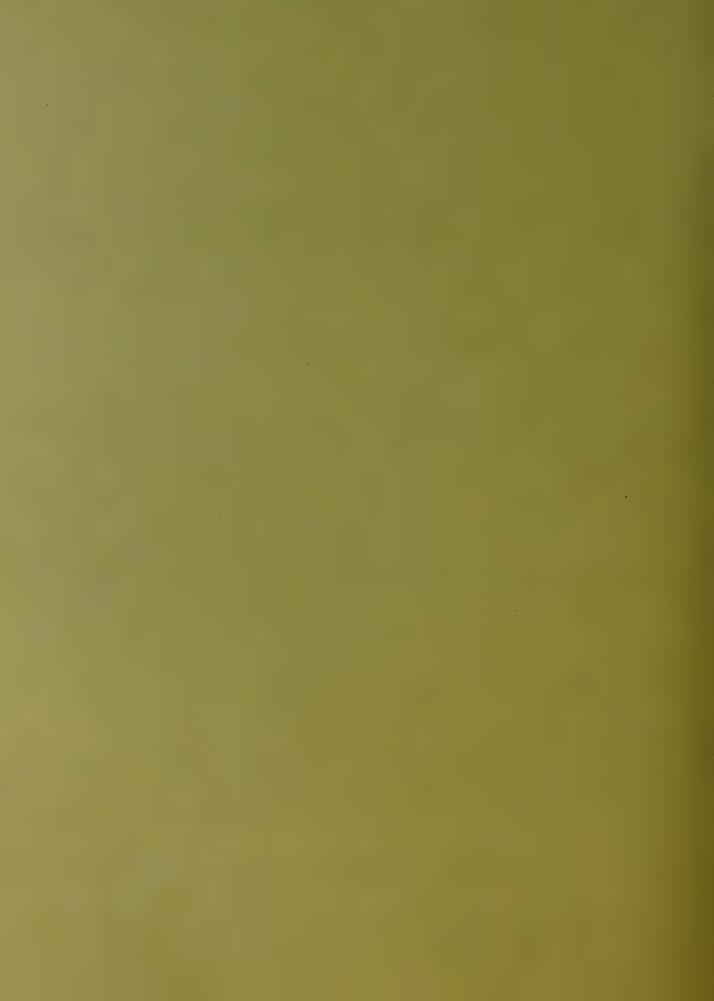
Chapter 3 National Pollutant Release Inventory

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Chapter 3
National Pollutant Release Inventory

to the House of Commons





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to the House of Commons

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Chapter 3
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Office of the Auditor General of Canada

The Fall 2009 Report of the Commissioner of the Environment and Sustainable Development comprises The Commissioner's Perspective—2009, Main Points—Chapters 1 to 4, an Appendix, and four chapters. The main table of contents for the Report is found at the end of this publication.

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Office of the Auditor General of Canada 240 Sparks Street, Stop 10-1 Ottawa, Ontario K1A 0G6

Telephone: 613-952-0213, ext. 5000, or 14888-761-5953

Fax: 613-943-5485

Hearing impaired only TTY: 613-954-8042

Email: distribution@oag-bvg.gc.ca

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National Pollutant Release Inventory

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National Pollutant Release Inventory

Main Points

What we examined

The National Pollutant Release Inventory (NPRI) is a national, legislated, publicly accessible inventory that provides Canadians with information about the releases and transfers of key pollutants in their communities. Created in 1992, it is maintained by Environment Canada under the authority of the Canadian Environmental Protection Act, 1999 (CEPA 1999). It is the only inventory of its kind in Canada.

Industrial, institutional, and commercial facilities that meet certain reporting thresholds and criteria are required to report annually to Environment Canada on their releases and transfers of pollutants. Facilities may choose from a variety of methods to estimate and report their releases. They are not required to use the same method every year. Environment Canada makes the information it receives from facilities available to the public through the NPRI, which can be accessed and searched through an online database. In 2007, over 8,500 facilities reported on their releases, disposals, and transfers for recycling of the 347 specific substances or substance groups listed under the NPRI.

We examined what Environment Canada does to manage the quality of the data contained and published in the NPRI. Data quality is a function of its fitness for use, that is, the data's relevancy to its intended purpose and its users. It is also based on the interrelationship between six dimensions of quality—accuracy, completeness, understandability, reliability, timeliness and accessibility. Audit work for this chapter was substantially completed on 12 June 2009.

Why it's important

Pollution tracking and environmental monitoring are critical activities, given the potential for serious and irreversible damage to human health and the environment from pollution. The NPRI is an information tool maintained by the federal government for public use to help identify and monitor sources of pollution in Canada. The Inventory covers a wide variety of pollutants that are released and transferred in Canada each year such as lead, mercury, and benzene—which are listed as toxic under CEPA 1999. It is used by individuals, organizations, and governments for many different purposes, such as

tracking progress in reducing pollutant releases, informing policy and regulatory decisions, researching environmental issues, evaluating and reporting on facility or sector performance, and providing the general public with information about pollutants in their communities.

What we found

- While Environment Canada has carried out some activities to ensure that the data in the NPRI is relevant to the information's intended purposes and users, it does not have a consistent approach to determining the information needs of users, which is important for identifying trends in user needs and progress in meeting them.
- Environment Canada is working to improve NPRI data quality and makes the data accessible to users in a variety of ways on a timely basis. However, it does not have adequate systems and practices overall to ensure that data in the NPRI is fit for its intended uses. The Department is unable to assess the accuracy and completeness of the data, nor does it adequately state the limitations of the data so that users understand its nature and are aware of what the data can be used for and where caution needs to be applied. This has a critical impact on the reliability of comparisons and trend analysis.

The Department has responded. The Department agrees with our recommendations. Its detailed responses follow each recommendation throughout the chapter.

Introduction

- 3.1 The National Pollutant Release Inventory (NPRI) is a Canadawide, legislated, and publicly accessible inventory of specific substances that are released into the air, water, and land. The NPRI also includes disposals and off-site transfers for recycling by industrial, institutional, and commercial sources. In essence, the NPRI provides Canadians with information about pollutant releases and transfers in their communities. The first NPRI report was released in 1995, based on data from 1993. For the 2007 reporting year, over 8,500 facilities submitted information on their releases, disposals, and transfers for recycling of the 347 specific substances or substance groups listed in the NPRI.
- 3.2 In its 1990 Green Plan, the federal government made a commitment to build a national database that would list releases of pollutants. The aim of the database was to make information available on the nature and quantity of toxic substances being released in Canada. In 1991, Environment Canada created a multi-stakeholder advisory committee composed of representatives from industry, environmental groups, labour, and the federal and provincial governments to develop a framework for the NPRI.
- **3.3** In its 1992 report, the committee said that the purpose of the NPRI was to provide comprehensive national data on releases of specified substances. The committee stated that benefits of the NPRI would include
 - identifying priorities for action,
 - encouraging voluntary action to reduce releases,
 - tracking the progress of reductions in releases,
 - improving public awareness and understanding of substances released into the environment, and
 - supporting targeted initiatives for regulating the release of substances.
- 3.4 The committee set out a number of guiding principles for the NPRI. Among other things, these principles included the following:
 - that coverage be comprehensive,
 - that reporting be as simple as possible so that it would not burden reporting facilities unreasonably,

- that the database and annual report present as complete a picture as possible.
- that the database facilitate public access to information about releases, and
- that the database evolve in response to public, government, and industry needs.
- 3.5 The NPRI is one of many pollutant release and transfer inventories around the world. The advisory committee modelled the NPRI, in part, on the United States' Toxics Release Inventory (TRI), which was developed in 1986 under the Emergency Planning and Community Right-to-Know Act in response to serious chemical releases in the mid-1980s.
- The legal authority for the NPRI is the Canadian Environmental Protection Act, 1999 (CEPA 1999). Subsection 46(1) contains information-gathering provisions, including provisions that allow the Minister of the Environment to request information on certain substances. Section 48 states that the Minister shall establish a national inventory of releases of pollutants, and section 50 says that this inventory shall be published in any manner that the Minister considers appropriate.
- Environment Canada is responsible for the ongoing development and maintenance of the NPRI. The Pollution Data Division within the Science and Technology Branch manages the NPRI with an annual budget of approximately \$6.3 million, which includes compiling comprehensive air emission inventories, trends, and projections as well as collecting and publishing information from facilities.
- 3.8 Owners or operators of facilities that manufacture, process, or use one or more NPRI-listed substances and that meet reporting thresholds and other requirements must report their pollutant releases, disposals, and transfers for recycling to the NPRI once a year. It is a contravention of CEPA 1999 if companies or persons required to report fail to do so, or if they knowingly submit false or misleading information; such companies or persons may face penalties listed under the Act.

Use of National Pollutant Release Inventory (NPRI) data

3.9 Environment Canada sees the data in the NPRI as important because it helps the Department's efforts to reduce releases and transfers of substances that can have a negative effect on the

environment and on the health of Canadians. Environment Canada uses NPRI data to

- track the progress of industrial facilities in reducing releases of pollutants;
- track progress in preventing pollution, evaluate releases and transfers for recycling of substances of concern, identify and take action on environmental priorities, and implement policy initiatives and risk-management measures;
- identify concerns of specific sectors;
- develop comprehensive inventories of air emissions for criteria air contaminants and other substances of concern; and
- support the Chemicals Management Plan.
- 3.10 Environment Canada also uses NPRI data to report on Canada's performance within multilateral environmental agreements. For example, in 2002, the Government of Canada expanded the NPRI to include emissions of criteria air contaminants. This expansion was done to support the government's Clean Air Strategy and to meet the government's reporting obligations for the agreement on Long-Range Transboundary Air Pollution and the Ozone Annex of the Canada–United States Air Quality agreement.
- 3.11 The NPRI provides Canadians with information about pollutant releases and transfers in their communities. Because the NPRI is a national inventory, a variety of organizations across Canada use it. These groups include industry associations, individual companies, government officials (federal, provincial, and municipal), Aboriginal organizations, and non-governmental organizations. International organizations, such as the Commission for Environmental Cooperation (CEC) and the Organisation for Economic Co-operation and Development (OECD), also refer to the NPRI.

The quality of information

3.12 Quality information is generally recognized as information that meets the needs of clients and other stakeholders, both in the public domain and within the federal government. Many statistical agencies, including Statistics Canada, where the quality of information is defined in terms of its "fitness for use," embrace this concept. Fitness for use also applies to the NPRI, since it is a national inventory that has a range of users.

Criteria air contaminants—A group of air pollutants that cause smog, acid rain, and other health hazards. These contaminants include sulphur dioxide, nitrogen oxides, volatile organic compounds, particulate matter, and carbon monoxide.

Launched in 2006, the **Chemicals Management Plan** is managed jointly by Health Canada and Environment Canada. The activities identified in the plan focus on the assessment and safe management of chemical substances, including action on key threats to health and the environment.

3.13 The quality of information is based on a number of attributes of quality information that overlap and are interrelated. Statistical agencies, such as Statistics Canada, note that these attributes must be managed adequately if information is to be fit for use. These attributes are summarized in the Government of Canada's quality information guideline, a draft document developed in support of its former Policy on Management of Government Information (2003). The guideline, which provided initial direction to federal entities for managing the quality of information, identified seven attributes of quality information and defined them by how useful they are for the information's intended purpose and audience. These attributes are relevancy, accuracy, completeness, understandability, reliability, timeliness and currency, and accessibility. These attributes are consistent with Statistics Canada's dimensions of quality. Statistics Canada also states that in managing the quality of information, objectives must be balanced against the evolving needs of clients and users as well as the constraints of financial and human resources.

Focus of the audit

- 3.14 The focus of our audit was to determine whether Environment Canada has adequate quality assurance systems and practices in place for the National Pollutant Release Inventory, so that the Department is assured that the data in the NPRI is fit for the intended uses of its clients.
- 3.15 More details on the audit objective, scope, approach, and criteria are in About the Audit at the end of this chapter.

Observations and Recommendations

User needs

Environment Canada is assessing user needs in an inconsistent way

- 3.16 Data quality is a function of its fitness for use—the data's relevancy to its intended purpose and audience. We expected Environment Canada to identify key users of the National Pollutant Release Inventory (NPRI), assess their information needs and associated requirements for data quality, and use this assessment to manage the quality of NPRI information.
- Many groups both within and outside the federal government use the NPRI. Environment Canada has a number of methods for finding out the information needs of users. One method of communicating with users is the multi-stakeholder working group.

Other methods include periodic surveys (for example, focus groups and user-based studies), workshops and information sessions, and analysis of inquiries. While these could help the Department identify trends in user needs and its progress in meeting them, Environment Canada does not use these methods on a consistent or regular basis.

- 3.18 New terms of reference for the multi-stakeholder working group. The working group, which has been in place since the beginning of the NPRI, includes representatives from industry, non-governmental organizations, Aboriginal organizations, and various levels of government. Its primary focus is on process and the requirements for collecting data. Environment Canada usually sets the agenda by asking for input on specific topics. The working group may also suggest topics.
- **3.19** Each year, the working group or topic-specific sub-groups research the topic, propose solutions, and make recommendations to Environment Canada. Some members of the working group have expressed concerns about a number of issues:
 - the lack of leadership and the absence of a formal decisionmaking process for the working group,
 - the lack of feedback to the working group on how the Department has acted on the group's suggestions, and
 - the overall time it takes to move forward on a topic.

Since 2008, the number of meetings of the working group has decreased. Some members have expressed concerns about the Department's level of commitment to the working group.

- **3.20** In June 2009, the Department proposed new terms of reference for the working group, along with priority setting and the establishment of a work plan. According to the draft terms-of-reference document, Environment Canada stated that there is a consensus among members that the input from stakeholders should be broadened. Under the updated mandate, the working group will discuss and provide recommendations on issues such as
 - modifying and streamlining NPRI requirements,
 - identifying and resolving data gaps,
 - addressing data quality issues,
 - improving access to pollutant data, and
 - harmonizing NPRI requirements with other initiatives that collect data on pollutants.

- 3.21 Surveys and focus groups are other methods used for determining user needs. In 2007, the Department commissioned a survey asking for reporting facilities' and data users' views on the NPRI. Data users in this survey suggested tailoring the reporting criteria to listed substances, lowering the thresholds for reporting pollutants, increasing the number of substances reported, and increasing the number of facilities that report. Users generally were satisfied with the accessibility and timeliness of data, but were less satisfied with trend data, comparisons, and information describing the quality of NPRI data.
- 3.22 These types of surveys could reach more users than the multistakeholder working group, but Environment Canada officials said that they have no plans to carry out regular surveys. They added that future surveys may not be comprehensive but focused on specific issues.
- 3.23 NPRI program managers said that they discuss the internal use of NPRI data with Environment Canada sector managers who are responsible for areas such as chemicals management, comprehensive monitoring of air emissions, and the Clean Air Regulatory Agenda, but these discussions are informal in nature.
- **3.24** Recommendation. Environment Canada should set up regular processes to get information on the needs of both internal users of NPRI data (Environment Canada sector managers) and external users, particularly those who are not part of the multi-stakeholder working group.

The Department's response. Agreed. Work has already started on improved engagement with external bodies through our refined terms of reference, clarified responsibilities and accountabilities, as well as the creation of a work plan for our external Stakeholder Working Group.

Internally, we are engaging in sector working groups to ensure that our work is integrated into program decision making and policy development that exists under the Chemicals Management Plan and Turning the Corner Initiative, to name two.

The new processes and operations will be documented and incorporated in a comprehensive strategy for data collection and management, including objectives, targets, and timelines and with a focus on the quality and accuracy of the data. This strategy and plan will be in place by spring 2010.

Managing the quality of NPRI data

3.25 In managing data quality, objectives must be balanced against the evolving needs of users and the constraints of financial and human resources. We expected that Environment Canada would have quality assurance systems and practices for the National Pollutant Release Inventory (NPRI), including systems and practices that apply to the attributes of accuracy, completeness, understandability, reliability, timeliness and currency, and accessibility.

Environment Canada is unable to assess the overall accuracy of NPRI data

- **3.26** Users expect data reported in the NPRI to be accurate. Two factors affect data accuracy—the information is self-reported and estimation methods vary.
- 3.27 NPRI data is self-reported. As required by the Canadian Environmental Protection Act, 1999 (CEPA 1999), owners and operators of facilities that meet the criteria for NPRI reporting must report to Environment Canada information on their pollutant release and transfer. This self-reporting approach places the responsibility on facilities. They must be aware that they may be required to report, assess whether their facility meets the reporting thresholds, choose an estimation method, and calculate and report their pollutant release, disposal, and transfer estimates.
- **3.28** Facilities are not required to carry out additional monitoring or measurement beyond what information is available and what is already required under the provisions of other legislation or bylaws. As a result, there is little incentive for facilities to improve data quality.
- **3.29** Estimation methods may vary by facility, within sectors, and over time. Estimation methods can vary by type of substance being measured and by operational processes of the facility. Facilities may use any of the six allowable methods to estimate how much of a particular substance is released, transferred, disposed of, or recycled. These methods are summarized in Exhibit 3.1.
- 3.30 Facilities within the same sector may use different estimation methods. Facilities may also change their estimation method from year to year. The NPRI requires that facilities report the method they used to estimate releases. If the same estimation method is used and there are changes in underlying emission factors or parameters, these may not be captured. The NPRI does not formally require that changes in estimation methods must result in more accurate estimates.

Exhibit 3.1 Allowable estimation methods for reporting to the National Pollutant Release Inventory (NPRI)

Release and transfer estimation methods

Reporting facilities may use any of the following estimation methods to estimate pollutant releases and transfers.

- Continuous emission monitoring systems records samples over an extended and
 uninterrupted period to determine the concentration of substances in the effluent or
 gas stream. Annual releases of the substance can then be estimated by multiplying
 the substance concentration by the annual flow rate of the discharged effluent or
 gases in the stack or duct.
- Predictive emission monitoring develops a correlation between substance release
 or emission rates and process parameters (for example, fuel usage, steam
 production, furnace temperature). Releases or emissions can then be calculated or
 predicted using process parameters.
- Source testing involves collecting a sample of the emission or effluent, then determining the concentration of one or more substances in the sample. The concentration of the substance of interest is then multiplied by the volumetric flow rate to determine the amount of the substance emitted over time.
- Mass balance applies the law of conservation of mass to a facility, process, or piece
 of equipment. If there is no accumulation, then all the materials that go into the
 system must come out. Releases are determined from the difference in the input
 and output of a unit operation.
- Site-specific and published emission factors are available for many emissionsource categories and are generally based on the results of source-sampling tests performed at one or more facilities within a specific sector. Generally, emission factors relate the quantity of substances emitted from a source to some common activity associated with those emissions. These factors can be sector- or sitespecific.
- Engineering estimates calculate pollutant releases using engineering principles and judgment, coupled with the consideration of physiochemical properties of substances involved in facility processes, and the efficiency of the processes involving these substances to produce the products, by-products, and other substances. The reliability of these estimates depends on the complexity of the process and the extent to which the above factors are understood.

Adapted from National Pollutant Release Inventory: Where do the numbers come from? Environment Canada website

3.31 To improve consistency and accuracy of self-reported pollutant release and transfer data, Environment Canada has worked with some industry sectors, such as the wood products industry, to develop common measurement and reporting guidelines for facilities in their sector. The Department is working with other industry sectors, such as aluminum producers, to develop similar guidance, but does not have a formal strategy and time frame to create such guidelines for all sectors. In addition to these sector-specific initiatives, the Department is also performing a series of measurement studies to help refine and update, if necessary, emission factors that may be outdated and may not reflect current technology and industrial processes.

- **3.32** Self-reporting and estimation are acceptable methods of data collection. However, they typically require independent checking of data, verification, and compliance promotion. Environment Canada's efforts in this area are described in the following paragraphs.
- 3.33 Online guidance and reporting tools make data input easier. Since the NPRI began, Environment Canada has used technology to make data input easier for facilities. In 2005, the Department introduced its online One Window to National Environmental Reporting System (OWNERS). This system has built-in quality checks, such as pre-filled fields, mandatory field completion, and data consistency, that make data entry easier. Enhancements planned for the new version to be introduced in 2010 include "report cards" that compare results between facilities in the same sector, and a holding area that allows Environment Canada to check data before it is added to the NPRI. In addition to offering online access to instructions on how to use OWNERS, the Department provides users with an NPRI Toolbox containing general information on methodologies for estimating pollutant emissions and examples of calculations, as well as some sector-specific guidance. The level of online guidance varies by sector.
- **3.34** To promote complete and accurate reporting to the NPRI, Environment Canada has traditionally held information sessions for data providers across the country. In the 2007–08 fiscal year, close to 1,000 people attended these sessions. For the 2008 reporting year, Department officials eliminated these information sessions, partly because there were few changes to the reporting requirements. Department officials said that future information sessions would focus on specific issues of data quality, such as emissions estimation, that data providers face.
- 3.35 Quality checks are in place but are largely desk-based. After receiving pollutant release and transfer data, Environment Canada carries out quality checks. These checks identify questionable, missing, and inconsistent data as well as potential duplications. The Department identifies these issues and follows up with reporting facilities and with Environment Canada sector experts in situations where data exceeds expected ranges, year-over-year variations are significant, and facilities are reporting values identical to those of previous years. The Department recently centralized activities related to the quality of NPRI data. Although this move has resulted in a decrease in the number of people directly involved with this work, the Department expects to be able to carry out the work on a more consistent and focused basis.

- 3.36 Environment Canada also reviews and compares sector information to identify underreporting or erroneous reporting by facilities in the same sector. The Department identifies and monitors data reported by higher-risk facilities as well. These include smaller facilities, which typically are less familiar with NPRI reporting, and facilities that are reporting for the first time. Attention is also paid to substances that are more likely to be reported inaccurately, such as volatile organic compounds and particulate matter.
- 3.37 Environment Canada does not routinely conduct on-site visits to verify facilities' data input and, as a result, there is limited on-site checking of data quality. For example, each year the Department visits an average of about 30 of the thousands of reporting facilities. Furthermore, the Department does not require third-party verification or other forms of professional certification on pollutant release and transfer data. Efforts to ensure that facilities comply focus largely on having them submit reports on time.
- 3.38 Environment Canada does not define or communicate the level of accuracy it is trying to achieve. Users raise concerns about the level of accuracy of NPRI data. However, Environment Canada has not defined or communicated the level of accuracy it is trying to achieve with the NPRI, nor has it stated the current level of accuracy. As noted above, the Department is making efforts to improve the accuracy of pollutant release and transfer data. But without a strategic reference point or goal for these activities, it is difficult for the Department to assess how effective these efforts are.
- **3.39 Recommendation.** Environment Canada should develop a comprehensive strategy and plan for improving the accuracy of NPRI data.

The Department's response. Agreed. A comprehensive strategy will be implemented for data collection and management, including objectives, targets, and timelines and with a focus on the quality and accuracy of the data. The strategy will also include a plan that is industry sector-specific. The strategy will focus on ensuring that the data provided is relevant, the parties responsible for the data development are identified, and information on the data collection process is easily available. The strategy will also feature an element of cost recovery for data collection for third parties. This strategy and plan will be in place by spring 2010.

Environment Canada cannot verify that all facilities required to report are doing so

- 3.40 The National Pollutant Release Inventory does not currently capture information on all pollutants, and facilities are required to report to it only if they meet certain thresholds. Users expect Environment Canada to have systems and practices in place to ensure that all facilities required to report are doing so, and that the facilities are reporting all required substances.
- 3.41 The number of substances and facilities that the NPRI covers has increased significantly. In 1993, the first year that data was collected and reported for the NPRI, some 1,500 facilities were required to report on 178 substances. Over the years, the number of reportable substances has increased, to the point that in 2007, over 8,500 facilities reported on 347 substances or substance groups.
- 3.42 Thresholds govern reporting to the NPRI. NPRI is a self-reported database that uses a series of reporting requirements, including thresholds. In general, all facilities that meet a minimum annual "employee threshold" (20,000 hours, or approximately 10 employees) must determine whether their facility meets the "substance thresholds" for each NPRI substance. Certain specified sectors, such as waste incinerators and wood preservers, whose activities are known to release significant quantities of substances, are required to report these releases to the NPRI regardless of the employee threshold. If a facility meets the criteria for a substance, it must report how much of it is released into the air, water, and land, disposed of, and sent for recycling. The general substance threshold is lower for priority substances, such as mercury and lead. The threshold for reporting criteria air pollutants is based on how much of a substance is released.
- 3.43 Some facilities are not required to report to the NPRI. For example, there are exemptions from reporting on most substances for facilities in sectors such as education, research, retail sales, fishing and agriculture, and dentistry. In addition, there are exemptions for certain types of facilities in sectors that otherwise must report (for example, car repair shops and fuel marketing stations).
- **3.44** Environment Canada is working to improve its understanding of NPRI sector coverage. Environment Canada is working with Statistics Canada to better understand sector coverage (percentage of facilities in a sector that are reporting to the NPRI). For example, Statistics Canada is carrying out a survey of facilities that fall below the NPRI reporting thresholds. Using employment and establishment data from Statistics Canada, the Department determined that facilities

reporting to the NPRI accounted for a significant portion of employment and total establishments in a number of sectors. These included the following: primary metals, transportation equipment, petroleum and coal products, pulp and paper, chemicals, and cement manufacturing. This type of analysis could allow the Department

- to review thresholds for sectors where only a small percentage of facilities are currently required to report to the NPRI, and
- to focus efforts on identifying facilities that could be subject to reporting requirements.
- 3.45 The City of Toronto offers an illustration of sector and threshold coverage in the NPRI. In December 2008, the City adopted its Environmental Reporting, Disclosure and Innovation Program. Under this program, businesses and City operations are to report publicly their use and release of 25 hazardous chemicals. The focus of the program is on Toronto's small and medium-sized businesses. These businesses are not covered by existing pollutant release and transfer monitoring programs, such as the NPRI and Ontario's proposed Toxics Reduction Strategy. Toronto Public Health estimates that the NPRI covers about 5 percent of the city's 5,000 to 7,000 facilities of all sizes.
- compliance rate of facilities for all sectors. Although Environment Canada is working to gain a better understanding of NPRI sector coverage, the Department is not able to determine for all sectors whether all facilities that should be reporting are indeed reporting to the NPRI. For example, Environment Canada notes that all Canadian cement kilns currently report, but only 240 of the approximately 1,200 total Canadian facilities in the sawmills and wood preservation sector reported to the NPRI for 2007. While the Department recognizes that most of the non-reporting facilities are small operations, several of these may have more than 10 employees and may therefore meet the NPRI's general reporting threshold. Environment Canada officials were not able to state whether these non-reporting facilities should be reporting, or whether they meet the various thresholds for substance-based reporting.
- 3.47 Recommendation. Environment Canada should develop methods to identify non-reporting facilities that may be subject to NPRI reporting requirements. The Department should make this sector coverage information available to NPRI users and use the information in its efforts to improve completeness of NPRI data.

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The Department's response. Agreed. We began work on coverage of the NPRI by sector prior to the audit that included analysis using other sources of data, such as Statistics Canada, to get a better perspective on compliance. Work will continue and results will be published by fall 2010.

- 3.48 It is difficult to ensure that facilities are reporting all the substances they are required to report. Environment Canada cannot easily ensure that facilities are reporting all the substances they should be reporting. As part of its quality checks to identify potentially unreported releases by a facility, the Department told us it does some comparisons between facilities within a sector. However, the use of different industrial processes may result in variations in reports from facilities in the same sector.
- **3.49 Recommendation.** Environment Canada should determine the extent to which facilities report all substances they should report to the NPRI, and develop methods to ensure that facilities report fully.

The Department's response. Agreed. We will develop a plan to audit the completeness of the reports provided to the NPRI by December 2010. An audit of selected facilities representing a cross-section of a priority industrial sector will be conducted in fiscal year 2010–11, with two additional priority sectors per year being audited thereafter.

Users need more help to understand NPRI data

- 3.50 Users expect Environment Canada to provide information on the underlying concepts, variables, methodologies, limitations, accuracy, and completeness of the NPRI database so that they can use and interpret its data properly. Such information helps database users understand what substance was included, why it was included, how it was quantified, and how well it was quantified.
- 3.51 NPRI users have access to the guidance information on reporting thresholds, estimation methods, sector-specific information, and emission estimation factors that Environment Canada gives to reporting facilities. In its online pollution data library, the Department also gives users information on the number of facilities and substances in the NPRI. Although general guidelines about using NPRI data are not featured on the main web page of the NPRI pollution data library, the Department does give users some basic information to guide them, such as explaining the use of reporting thresholds and the risk of duplication when adding numbers.

- 3.52 Environment Canada needs to better communicate the level of NPRI accuracy and completeness. Earlier, we listed the factors in the NPRI that have an impact on data accuracy, the limitations of Environment Canada's checks for data quality, and the lack of a strategy for improving the accuracy of the data. The Department needs to better define and communicate to users how accurate NPRI data is—for example, noting which data are of high quality and which data need to be used with caution. The Department needs to explain its goals for the NPRI, its efforts to improve accuracy, and its assessment of the actual level of accuracy. For example, the Department could provide users with information such as caveats and quality statements, or give greater detail and offer statistics related to quality checks that are done.
- 3.53 The Department encourages reporting facilities to use the comments section in OWNERS, where facilities can add notes about their pollutant release and transfer data. Facilities can use the comments section to explain estimation factors and methods used, and highlight changes, among other things. Increased use of the comments section could provide Environment Canada with greater insight into the nature of the submitted data.
- 3.54 Users need to understand sector coverage so they can make an informed analysis of NPRI data. For example, if only a very small percentage of facilities in an industry sector are required to report, the reported pollutant release and transfer amounts may under-represent total releases. As noted earlier, even though Environment Canada is working to better understand sector coverage, it is not able to determine whether all eligible facilities are reporting to the NPRI. As a result, the Department is not in a position to give NPRI users sufficient information on sector coverage.
- 3.55 Environment Canada does not clearly explain how NPRI data can suitably be used, such as to provide information so that Canadians know about pollutant release and transfer in their communities, and where caution must be applied, such as when analyzing trend data. The Department could draw on the experience of Statistics Canada. Statistics Canada's Policy on Informing Users of Data Quality and Methodology requires that summary information on data quality, scope, and methodology accompany each statistical product.
- **3.56** Recommendation. Environment Canada should provide users with clear information on the underlying concepts, variables, methodologies, limitations, accuracy, and completeness of the NPRI database.

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The Department's response. Agreed. The reporting requirements for the program and guidance to reporting facilities are already available on the NPRI website. Environment Canada will develop and publish more comprehensive information on the quality of NPRI data by July 2011. Information used to implement the above recommendations will form the basis for much of the additional information for data users.

Estimation methods and reporting thresholds make it difficult to compare data reliably and analyze trends

- 3.57 Since the NPRI captures pollutant release and transfer data from facilities every year, users expect that NPRI data can reliably be used to make comparisons and analyze trends. The ability to understand trends in pollutant releases and transfers is one of the underlying aims of the NPRI.
- 3.58 A number of factors that affect users' ability to compare data hinder trend analysis. For example, although changes in estimation methods or improvements in estimation methodologies may result in improvements in data for the current year, there may be a trade-off with comparability over time. In addition, the number of facilities reporting to the NPRI can vary from year to year depending on whether they meet the general or substance-specific reporting thresholds, or if there are changes in the thresholds. Environment Canada tries to identify and reconcile changes in the number of reporting facilities, but this information is not made available to users. Knowledgeable users can generate trend data. However, because the number of reporting facilities varies, this analysis may be of limited scope and may not provide a complete picture of trends in pollutant release and transfer.
- **3.59** Given its knowledge of NPRI data and the data's limitations, Environment Canada can offer value-added summary information and trend analysis on pollutant release and transfers. A note describing the limitations of the data, such as levels of accuracy and completeness, could help users interpret this information properly.

Environment Canada makes NPRI data accessible to users in a variety of ways and provides it on a timely basis

3.60 Reviewed information is issued within six months. In carrying out quality checks on the information that facilities submit, Environment Canada aims to issue raw data within one month and reviewed information within six months of receiving reports from facilities. The Department has generally met its NPRI publication

goals for the last four years. In a survey of data users' views on the NPRI, carried out for Environment Canada in October 2007, users rated timeliness as one of the top factors in terms of satisfaction, with 50 percent of respondents saying they were "very satisfied." Canada's NPRI data is published ahead of the release of information from the other North American pollutant release and transfer registries.

- NPRI data is easily accessible to users. Environment Canada makes NPRI data available in a variety of formats, including the option to download the complete, detailed database. Once the data is reviewed and published, the Department also offers users online access to summarized information. Highlights and summary information describe what is new in the NPRI, list some quick facts on substances and facilities, and include summary tables by substance.
- Search tools help users explore the database. Users have access to unreviewed NPRI data in the online search tool within one month of Environment Canada's receiving it. NPRI data can also be downloaded as a relational database file. Using modern mapping technology, Environment Canada recently introduced a "map layers" version of the latest reporting year's NPRI data for use with Google Earth and other virtual globe software. This feature allows users to search for reporting facilities near a specific location.
- Users find the online data search tool difficult to use. An online data search tool allows users to query the database for detailed information on a specific facility's pollutant release and transfer. Searches for facilities can be filtered by substance, by geographic location, or by sector. The query interface allows for filtering, but does not currently support comparisons over years or within sectors. To produce this type of information, users must copy the detailed data into their own analytical tools. The results of the 2007 survey of data users' views on the NPRI noted these difficulties in manipulating and analyzing data. In that survey, ease of manipulation of NPRI data received a score of 33 percent user satisfaction. This result mirrors the concerns raised by members of the working group and non-governmental organizations. These users found it difficult to search the database and acquire consolidated information.

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Conclusion

- 3.64 Data quality is a function of its fitness for use: the data's relevancy to its intended purposes and audience. Reaching an acceptable level of quality is the result of addressing, managing, and balancing over time the various dimensions of quality. As a national inventory of pollutant releases and transfers in Canada, the National Pollutant Release Inventory (NPRI) is used by a wide variety of organizations, both domestically and internationally. It provides information that tells Canadians about releases and transfers of pollutants in their communities.
- 3.65 Environment Canada does not have adequate systems and practices to assess the overall accuracy of NPRI data, to verify that all facilities required to report are doing so and reporting on all substances they are required to report on, or to provide enough information to help users understand NPRI data. These three dimensions of quality play a key role in users' ability to compare data reliably and to analyze trends. The range of estimation methods and the reporting thresholds that facilities use also hinder users as they work with the data.
- **3.66** Environment Canada makes NPRI data accessible to users in a variety of ways and provides it on a timely basis. However, given the weaknesses outlined above, we conclude that Environment Canada does not have adequate systems and practices overall to ensure that NPRI data is fit for its intended purposes and audience.
- 3.67 We recognize that Environment Canada is aware of problems of data quality with the NPRI and is taking certain measures to improve data quality. However, these actions must be guided by a comprehensive strategy and plan for improving NPRI data accuracy, assessing user needs more consistently, understanding sector coverage better, and enhancing communication of underlying data concepts, methodology, scope, and limitations.
- 3.68 As Environment Canada works to improve and enhance the quality of NPRI data, the Department should help users clearly understand the NPRI, its data, and the data's limitations regarding its completeness and accuracy. Clear communication would help users know what the NPRI data can be used for and where caution needs to be applied, so that they can interpret and use the data properly.
- **3.69** In place since 1992, the National Pollutant Release Inventory is recognized domestically and internationally as one of the federal government's key tools to capture and report on releases of pollutants

into the environment. Environment Canada needs to build on improvements made to date, ensure that the NPRI contains the best possible information on pollutant releases and transfers, and make this information more easily understandable.

About the Audit

All of the audit work in this chapter was conducted in accordance with the standards for assurance engagements set by The Canadian Institute of Chartered Accountants. While the Office adopts these standards as the minimum requirement for our audits, we also draw upon the standards and practices of other disciplines.

Objective

The objective of the audit was to determine whether Environment Canada has adequate quality assurance systems and practices in place for the National Pollutant Release Inventory, so that the Department can be assured that the data contained in the Inventory is fit for the intended uses of its clients.

Scope and approach

We examined the work carried out by Environment Canada to manage the quality of the data contained in and reported through its National Pollutant Release Inventory within the context of the data's fitness for use.

Our audit approach consisted of interviews with Environment Canada staff, with partners and stakeholders, and with data users. We also reviewed relevant documentation related to Environment Canada's quality assurance and quality control procedures and practices for the Inventory.

Criteria

Listed below are the criteria that were used to conduct this audit and their sources.

Criteria	Sources	
Users needs	Standards for data quality have been established by Canada's national statistical agency, Statistics Canada. These standards are generally consistent with the summary of the attributes of quality information in the Treasury Board of Canada Secretari document, Framework for the Management of Information in t Government of Canada—Quality Information Guideline (Draft July 2004).	
We expected that Environment Canada would have processes in place for assessing user information needs and data-quality requirements and that it would be using these processes to manage the quality of the National Pollutant Release Inventory (NPRI).		
Data quality		
We expected that Environment Canada would have quality assurance systems and practices in place, including those applicable to the accuracy, completeness, understandability, coherence and reliability, timeliness, and accessibility of the information held in the National Pollutant Release Inventory (NPRI).		

Management reviewed and accepted the suitability of the criteria used in the audit.

Period covered by the audit

The period audited for this chapter focused on the systems and practices in place for the National Pollutant Release Inventory 2007 and 2008 reporting years, while taking into consideration the evolution of the Inventory since its inception in 1992.

Audit work for this chapter was substantially completed on 12 June 2009.

Audit team

Principal: Jim McKenzie Director: David Willey

John Hilton Mark Lawrence Alison Mudge

For information, please contact Communications at 613-995-3708 or 1-888-761-5953 (toll-free).

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Appendix List of recommendations

The following is a list of recommendations found in Chapter 3. The number in front of the recommendation indicates the paragraph number where it appears in the Chapter. The numbers in parentheses indicate the paragraph numbers where the topic is discussed.

Recommendation

Response

User needs

3.24 Environment Canada should set up regular processes to get information on the needs of both internal users of NPRI data (Environment Canada sector managers) and external users, particularly those who are not part of the multi-stakeholder working group. (3.16–3.23)

Agreed. Work has already started on improved engagement with external bodies through our refined terms of reference, clarified responsibilities and accountabilities, as well as the creation of a work plan for our external Stakeholder Working Group.

Internally, we are engaging in sector working groups to ensure that our work is integrated into program decision making and policy development that exists under the Chemicals Management Plan and Turning the Corner Initiative, to name two.

The new processes and operations will be documented and incorporated in a comprehensive strategy for data collection and management, including objectives, targets, and timelines and with a focus on the quality and accuracy of the data. This strategy and plan will be in place by spring 2010.

Managing the quality of NPRI data

3.39 Environment Canada should develop a comprehensive strategy and plan for improving the accuracy of NPRI data. (3.26–3.38)

Agreed. A comprehensive strategy will be implemented for data collection and management, including objectives, targets, and timelines and with a focus on the quality and accuracy of the data. The strategy will also include a plan that is industry sector-specific. The strategy will focus on ensuring that the data provided is relevant, the parties responsible for the data development are identified, and information on the data collection process is easily available. The strategy will also feature an element of cost recovery for data collection for third parties. This strategy and plan will be in place by spring 2010.

Recommendation

- 3.47 Environment Canada should develop methods to identify non-reporting facilities that may be subject to NPRI reporting requirements. The Department should make this sector coverage information available to NPRI users and use the information in its efforts to improve completeness of NPRI data. (3.40–3.46)
- 3.49 Environment Canada should determine the extent to which facilities report all substances they should report to the NPRI, and develop methods to ensure that facilities report fully. (3.48)
- 3.56 Environment Canada should provide users with clear information on the underlying concepts, variables, methodologies, limitations, accuracy, and completeness of the NPRI database. (3.50–3.55)

Response

Agreed. We began work on coverage of the NPRI by sector prior to the audit that included analysis using other sources of data, such as Statistics Canada, to get a better perspective on compliance. Work will continue and results will be published by fall 2010.

Agreed. We will develop a plan to audit the completeness of the reports provided to the NPRI by December 2010. An audit of selected facilities representing a cross-section of a priority industrial sector will be conducted in fiscal year 2010–11, with two additional priority sectors per year being audited thereafter.

Agreed. The reporting requirements for the program and guidance to reporting facilities are already available on the NPRI website. Environment Canada will develop and publish more comprehensive information on the quality of NPRI data by July 2011. Information used to implement the above recommendations will form the basis for much of the additional information for data users.

Report of the Commissioner of the Environment and Sustainable Development—Fall 2009

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2009



Report of the
Commissioner of the
Environment and
Sustainable Development

FALL

Chapter 4
Environmental Petitions

to the House of Commons



Office of the Auditor General of Canada



2009



Report of the

Commissioner of the Environment and Sustainable Development

to the House of Commons

FALL

Chapter 4
Environmental Petitions





Office of the Auditor General of Canada

The Fall 2009 Report of the Commissioner of the Environment and Sustainable Development comprises The Commissioner's Perspective—2009, Main Points—Chapters 1 to 4, an Appendix, and four chapters. The main table of contents for the Report is found at the end of this publication.

The Report is available on our website at www.oag-bvg.gc.ca.

For copies of the Report or other Office of the Auditor General publications, contact

Office of the Auditor General of Canada 240 Sparks Street, Stop 10-1 Ottawa, Ontario K1A 0G6

Telephone: 613-952-0213, ext. 5000, or 1-888-761-5953

Fax: 613-943-5485

Hearing impaired only TTY: 613-954-8042

Email: distribution@oag-bvg.gc.ca

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Chapter

4

Environmental Petitions



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Environmental Petitions

Main Points

What we examined

Established in 1995 as a result of amendments to the *Auditor General* Act, the environmental petitions process provides Canadians with a formal means to bring their concerns about environmental issues to the attention of federal ministers and departments and to obtain a response to their concerns. Ministers are required to respond in writing within 120 days.

On behalf of the Auditor General of Canada, the Commissioner of the Environment and Sustainable Development manages the environmental petitions process and monitors responses of federal ministers. As required by the Act, the Commissioner reports annually on the quantity, nature, and status of petitions received and on the timeliness of departmental responses. This chapter contains the annual report on petitions and responses received between 1 July 2008 and 30 June 2009.

Why it's important

Environmental petitions are a feature of our parliamentary democracy. Submitting a petition is a simple way for Canadians to bring their environmental concerns to the attention of federal departments and agencies that are subject to the process. Monitoring and reporting on petitions and petition responses, as well as publishing those documents on our website, contributes to transparency in federal environmental management. The Office of the Auditor General also helps to promote federal accountability for environmental management by considering the issues raised in petitions and the responses they generate when it plans and conducts audits.

What we found

- Canadians submitted 28 petitions this year. This represents about
 half the number submitted last year. However, the diversity of topics
 covered was similar to last year. The issues most commonly raised
 were health, biodiversity, fish habitat, and environmental
 assessment. Petitions continue to range from those that focus on
 local issues to those that discuss national concerns.
- The number of on-time responses continued to decline. Only 77 percent of responses were provided within the required 120 days,

- compared with 86 percent last year and 95 percent the year before. Two departments—Industry Canada and Environment Canada—accounted for about 70 percent of the late responses. Despite the fact that Health Canada was responsible for the largest number of responses this year, all of its responses were on time.
- · Recent audit work in our Office has benefited from knowledge gained through petitions and responses. These include Chapter 1 of this report, Applying the Canadian Environmental Assessment Act, and Chapter 1 of our Spring 2009 report, Protecting Fish Habitat.

Introduction

The environmental petitions process

- 4.1 The environmental petitions process was created in 1995, through an amendment to the *Auditor General Act*. It is a formal, yet simple, way for Canadians to obtain responses from federal ministers to their questions, concerns, and requests on environmental issues that are within the federal government's mandate. Twenty-eight departments and agencies are currently subject to the process.
- 4.2 Any Canadian resident can submit an environmental petition, acting alone or acting on behalf of an organization, business, or municipality. Since the first petition was submitted in late 1996, over 330 petitions have been submitted. Topics have varied widely and have included those as specific as the impact of a development on a local stream and those as broad as the right of Canadians to a healthy environment. Through the process, petitioners have asked for information, for investigations, for specific actions, and for changes in policy.
- 4.3 The responsible federal ministers must provide a written reply to a petition within 120 calendar days. Ministers are required to notify the petitioner before the end of this period if they do not expect to be able to meet the timeline. These requirements are clearly spelled out in the Auditor General Act. The Act does not require ministers or departments to take action on the issues raised.
- 4.4 Information on the process and the role of the Commissioner of the Environment and Sustainable Development, who administers the process on behalf of the Auditor General of Canada, is summarized in Exhibit 4.1.
- **4.5** Our publication, Getting Answers—A Guide to the Environmental Petitions Process, further describes the petitions process and includes
 - the kinds of requests that can be made,
 - steps to follow when writing and submitting an environmental petition,
 - the role of the Commissioner, and
 - what petitioners can expect from departments and agencies.

Getting Answers—A Guide to the Environmental Petitions Process is available on the Office of the Auditor General website (www.oag-bvg.gc.ca).

Exhibit 4.1 The environmental petitions process and the role of the Commissioner of the Environment and Sustainable Development

Starting a petition	A Canadian resident submits a written petition to the Auditor General of Canada.			
Reviewing a petition	The Commissioner's team reviews the petition to determine if it meets the requirements of the <i>Auditor General Act</i> .			
	If the petition is accepted, the team will	If the petition is not accepted, the petitioner will be informed in writing.		
	 determine the federal departments and agencies responsible for the issues addressed in the petition; 	If the petition is incomplete or unclear, the petitioner will be asked to re-submit it.		
	 send it to the responsible ministers; and 			
	send a letter to the petitioner, listing the ministers to whom the petition was sent.			
Responding to a petition	Once a minister receives a petition, he or she must send a letter, within 15 days, to the petitioner and the Commissioner acknowledging receipt			
	 of the petition, and consider the petition and send a reply to the petitioner and Commissioner within 120 days. 			

Ongoing petitions activities					
Monitoring	Reporting	Posting on the Web	Auditing		
The Commissioner monitors acknowledgement letters and responses from ministers.	The Commissioner reports to the House of Commons on the petitions and responses received.	The Commissioner posts petitions, responses, and summary information on the Web.	The Office of the Auditor General considers issues raised in petitions when planning future audits.		

Focus of the chapter

- **4.6** Section 23 of the *Auditor General Act* requires the Commissioner of the Environment and Sustainable Development to monitor petition responses from ministers and to report annually to the House of Commons on the number of petitions received, their nature, and their status.
- 4.7 The purpose of this chapter is to report to Parliament and Canadians on the petitions and responses received between 1 July 2008 and 30 June 2009 and to highlight good practices and opportunities for improvement.
- 4.8 More details on our objective, scope, and approach are in **About** the **Chapter** at the end of this chapter.

Petitions and Responses

Petitions received

- 4.9 During this year's reporting period (1 July 2008 to 30 June 2009) we received 28 petitions—a 50 percent decrease from last year and a break in the recent trend of annual increases. However, last year was unusual, because over half of the petitions were grouped around a few specific topics, such as fluoride in drinking water and exposure to electromagnetic radiation. This was not the case this year.
- **4.10** Petitions were submitted by petitioners residing in five provinces and one territory (Exhibit 4.2), with about half of the petitions originating in Ontario (thirteen petitions). Residents of British Columbia submitted seven petitions and Quebec residents submitted five.

A substantial proportion of petitions were submitted by individuals and past petitioners

- **4.11** Of the 28 petitions submitted this year, 20 were submitted by individuals rather than by organizations, which is a slightly higher proportion than in the past. Six of the remaining petitions were submitted by environmental organizations, another came from an Internet-based newsletter, and another came from a hazardous waste management company.
- **4.12** Eleven of this year's petitions—about 40 percent of the total—were submitted by past petitioners; this suggests that they continue to see value in the process.

The range of topics covered by petitions was similar to last year

- **4.13** Although fewer petitions were received this year, the number of topics covered was similar to last year. This is because only a small number of petitions addressed the same topics.
- **4.14** One topic that was covered last year (in eleven petitions) and in more than one petition this year was electromagnetic radiation. This year, three petitions dealt with this topic:
 - One petition (255-B) was a follow-up to a petition submitted last year and focused on one neighbourhood's exposure to electromagnetic radiation from a grouping of telecommunications towers.
 - Another petition (264) was about how environmental information is verified in the application process for cellular tower installations.

• A third petition (235-C) was a follow-up to a petition submitted last year and continued to pursue concerns about the appropriateness of the federal standard that specifies exposure limits for electromagnetic radiation.

Exhibit 4.2 Petitions came from five provinces and one territory (1 July 2008 to 30 June 2009)



Petition No.	Subject	Petition No.	Subject	
235C	Follow-up petition on the health risks posed by electromagnetic radiation	274	Request for federal action to protect Canadians from vapour intrusion of CEPA Schedule 1 toxic substances into residences	
240B	Follow-up petition on environmental concerns regarding the Cacouna marsh	275	Progress toward meeting drinking water quality standards on Indian reserves	
255B	Potential impact on human health of electromagnetic radiation emanating from telecommunication towers on Triangle Mountain,	276	The use of manure that allegedly contains livestock antibiotics and its impact on human health and the environment	
262	British Columbia Bioaccumulation assessment criteria related to the regulation	277	Impact on marine life and habitat from garbage compactor truck leachate draining into sewers and waterways	
263	of fire-retardant chemicals Status of recommendations in joint panel reviews of oil sands	278	Concerns about the Mackenzie Gas Project Joint Review Panel's funding and contractual arrangements	
264	Environmental information in the "application for licence" to install a cellular tower in Simcoe, Ontario	279	Policies and actions regarding after-hours lighting of federal government office buildings	
265	Hunting safety in the Cacouna marsh	280	Concerns about Canada's export of chrysotile asbestos and the	
266	Gravel removal in the lower Fraser River, British Columbia		delayed release of a report about its potential health impacts	
267	Impact of siltation on fish and fish habitat in Pomquet, Nova Scotia	281	Federal role in ensuring the Government of Ontario's protection of fish habitat and water quality affected by mining exploration	
268	Request to withdraw the registration of neurotoxic pesticides in Canada	282	Concerns about harmonization and enforcement of Canadian Environmental Protection Act (CEPA 1999) regulations governing transboundary movement of hazardous wastes	
269	Environmental concerns related to proposed expansion of the Marmot Basin ski area in Jasper National Park, Alberta	283	Concerns about the regulation of the herbicide atrazine and its potential impact on amphibian population	
270	Publication practices related to reports on the health impacts of climate change	284	Control of toxic substances in tobacco products	
271	Health and safety studies related to the lights used in barcode readers	285	Request for the federal government to waive court costs for environmental non-governmental organizations that are acting in the public integer.	
272	Incident reporting related to a fire at a pesticide manufacturer	200	the public interest	
273	Creating buffer zones around national parks to protect Rocky Mountain wolf populations	286	Concerns about the potential environmental impacts of the Nanaimo airport expansion on Vancouver Island, British Columbia	

- **4.15** Two other topics were each the focus of two petitions this year:
 - Petitions 270 and 280 related to Health Canada's publication practices for environmental reports. Petition 270 raised concerns about the Internet accessibility of a major report on the impact of climate change on health, and petition 280 raised concerns about the delayed release of a report on the impact of chrysotile asbestos on health.
 - Petitions 269 and 273 related to biodiversity conservation in Rocky Mountain National Parks. Petition 269 raised concerns about proposed expansion of the Marmot Basin ski area in Jasper National Park. Petition 273 requested that buffer zones be created around Rocky Mountain national parks to protect the parks' wolf populations.

The issues most commonly raised by petitioners were health, biodiversity, fish habitat, and environmental assessment

- 4.16 This year, the broad issues most commonly raised in petitions included the following: health, biodiversity, fish habitat, and environmental assessment. Most of the petitions dealing with environmental assessment alleged that there were problems with or inadequacies in the federal environmental assessment process itself. However, petition 263 was a request for information on the implementation of recommendations made by environmental assessment review panels for oil sands development projects. A number of petitions also raised questions about the enforcement of or compliance with environmental regulations.
- 4.17 Even among petitions that deal with different topics and issues, common themes sometimes emerge. One such theme—the adequacy and objectivity of the science used in policy-making and standard-setting—was again apparent in a number of this year's petitions. The Office's audit work is informed not only by specific petition topics but also by these kinds of common concerns.

There was a fairly even split between local and national issues

- **4.18** This year, petitions were fairly evenly split between those that focused on local, regional, or case-specific issues and those that dealt with national or broad-based issues. For example:
 - Petition 272 had a local focus. It raised concerns about an alleged failure to follow federal requirements and report a pesticide

- release that contaminated an environmentally significant local waterway.
- Petition 274 dealt with the risk of volatile organic compounds percolating into buildings from contaminated groundwater or soil. Although the petition included some information that related to the petitioner's own community, the questions asked and requests made in the petition focus on broader public policy.
- **4.19** Petitions may also contain more of a mix of local and broadbased dimensions. For example:
 - Petition 282 asked about the broad-based issue of an alleged mismatch in Canadian versus US reporting requirements for transboundary hazardous waste movement. It also asked about specific investigations related to regulatory compliance at a wastehandling company.
 - Petition 285 asked that court costs be waived in the specific case of a judicial review of an environmental assessment of a dam refurbishment and, more generally, that environmental organizations acting in the public interest not be required to pay court costs.

Concise petitions can be as effective as long ones

- 4.20 Department representatives have noted challenges in determining petitioners' concerns when the background information and questions are long and unfocused. Petition length does not necessarily correlate with the importance of the issue, the knowledge of the petitioners, or the length or detail of the response. Clarity and factual accuracy are more important characteristics than length.
- 4.21 In the new guide that we posted on our website in December 2008 (Getting Answers—A Guide to the Environmental Petitions Process) and in direct discussion with petitioners, we encourage concise petitions. We suggest a maximum of 5,000 words and a maximum of 20 questions or requests. All but one of the eighteen petitions received between the posting of the Guide and the end of the reporting period met these guidelines. We exercised our discretion and did not publish the petition that exceeded our length guideline on our website.
- **4.22** In addition, petitioners are asked to properly cite the references they use in their petitions. This gives readers, including department officials, better context and makes the documents easier to find.

Responses received

- 4.23 This year, responses were due on a total of 39 petitions. Since departments have 120 days to respond after a petition is received, some of the responses covered in this report were for petitions received in the previous reporting period. This is why there is the difference in the number of submitted petitions (28) and the number of petitions for which responses were due (39). Responses for petitions received toward the end of this reporting period will be part of next year's report.
- 4.24 Also, since most petitions were directed to more than one department or agency, a total of 96 responses were provided by 16 departments and agencies. Due to the nature of the issues being raised this year, Health Canada was responsible for 27 of the 96 responses. Environment Canada typically receives the most petitions, but this year it needed to respond to only 23 petitions, which is about half as many as last year.

The percentage of on-time responses is continuing to decline

- 4.25 We are concerned about the continuing decline in the number of on-time responses, especially given that fewer responses were due this year. Only 77 percent of responses were on time this year, compared with 86 percent last year and 95 percent the year before. Six departments responded late to at least one petition (Exhibit 4.3). Two of these departments—Industry Canada (eight of its nine responses were late) and Environment Canada (eight of its twenty-three responses were late)—accounted for about 70 percent of the late responses.
- 4.26 Despite the fact that Health Canada was responsible for the largest number of responses, 100 percent of its responses were on time. Fisheries and Oceans Canada and the Public Health Agency of Canada, which were responsible for eleven and seven responses respectively, also delivered all of their responses on time.
- 4.27 On average, late responses were submitted 35 days after the 120-day deadline, a significant decline in performance from the 12-day average last year. The number of days late ranged from 4 to 84 days. In addition to having one of the highest percentages of late responses (89 percent), Industry Canada also had the highest average number of days late for its responses (50 days).
- 4.28 Departments and agencies have a legislative obligation to respond within the 120-day period, unless the responsible minister notifies the petitioner in writing within this period that the response

will be delayed. If notification is sent, the response is not deemed late. This year, five notifications were sent; the notifications related to petitions 249 and 262.

While most responses were complete and relevant, some did not meet our basic quality considerations

4.29 This year, as in other years, petitioners have raised hundreds of questions through the petitions process. Exhibit 4.4 includes examples of questions and responses that illustrate the kinds of exchanges that result from the petitions process. While the responses in this selection are similar in length, in reality, petitioners' questions and the answers they receive vary considerably in length and level of detail.

Exhibit 4.3 Six departments responded late to at least one petition

Department/Agency	Number of responses due	Number of late responses	Percentage on time (%)	Notifications of delay*
Agriculture and Agri-Food Canada	1	0	100	0
Canadian Heritage	1	0	100	0
Environment Canada	23	8	65	2
Finance Canada, Department of	1	0	100	0
Fisheries and Oceans Canada	11	0	100	1
Foreign Affairs and International Trade Canada	. 3	2	33	1
Health Canada	27	0	100	1
Industry Canada	9	8	11	0
Justice Canada, Department of	2	0	100	0
Natural Resources Canada	3	1	67	0
Parks Canada	1	0	100	0
Public Health Agency of Canada	7	0	100	0
Public Safety Canada	1	1	0	0
Public Works and Government Services Canada	3	0	100	0
Transport Canada	2	2	0	0
Treasury Board of Canada Secretariat	1	0	100	0
Total	96	22	77	5

^{*}Note: A response is not considered to be late if the petitioner is notified of an expected delay before the due date.

- **4.30** The petitions team routinely reviews each petition response for quality and for potential relevance to future audits. Responses reflect the current views and positions of responding departments, which may not align with those of petitioners. Since we do not judge the quality of a response based on the departments' positions, our perspective on the adequacy of responses may differ from that of petitioners.
- **4.31** When we review petition responses, our primary quality considerations are as follows:
 - Completeness. Is every question addressed?
 - Relevance. Are the responses relevant to the questions?

We are also concerned about clarity. For example, if the responding department disagrees with views or information that are central to the petition, we look at whether its response includes a clear explanation of the basis for the disagreement.

- **4.32** This year, as in past years, we found that the majority of responses were complete and relevant. Moreover, some petition responses included considerable depth and detail.
- 4.33 One such example is the joint response to petition 249 by Foreign Affairs and International Trade Canada, Environment Canada, and Fisheries and Oceans Canada. The petition posed questions about the government's efforts to deliver on the terms of a bilateral agreement to reduce environmental risks to Canadian waters associated with the operation of North Dakota's Devils Lake outlet. The response included
 - background information,
 - a clear statement on the Government of Canada's position, and
 - considerable information about the technical work undertaken to prevent the spread of aquatic nuisance species.
- **4.34** Although the petitioners did not believe that the achieved safeguards described in the response were adequate, they appreciated the thoroughness of the response, which contributed to their understanding of initiatives undertaken.
- **4.35** This year, during our review of responses, we also noted some specific good practices. For example, in its response to petition 248, Fisheries and Oceans Canada identified a contact person with whom the petitioner could follow up.

Exhibit 4.4 Examples of petitioner questions with responses received this year

Question Response

Petition 243, Question 6. The evidence for harm from fluoridation chemicals are doses currently used in Canada (0.5mg/L -1mg/L) is reviewed in the National Research Council 2006 Report. Why does the Chief Dental Office for Health Canada travel across the country spending taxpayers money promoting and supporting this unregulated water additive and CEPA-designated toxic substance to municipalities, stating that there is no evidence of harm? Is this his mandate under Health Canada?

Health Canada's response. Among the roles of the Chief Dental Officer, one is to present Health Canada's position on water fluoridation, which is based on internal scientific reviews of original relevant scientific studies that are published in internationally recognized peer-reviewed journals, as well as to promote effective, preventive public health measures such as water fluoridation.

An expert panel was formed to provide Health Canada with advice and recommendations on the current state of relevant science with respect to the fluoridation of water. The report from the panel reinforces Health Canada's position that water fluoridation is important from a public health perspective and that our position on water fluoridation is sound. The report's recommendations are based on the latest science. In undertaking the study, Health Canada consulted with a number of experts including scientists from the Universities of British Columbia, Toronto, lowa; scientists from many areas of Health Canada; and also received input from the Canadian Dental Association, the US Environmental Protection Agency and public health experts from Canada and the US.

Health Canada endorses the fluoridation of drinking water to prevent tooth decay, but does not make the decision on whether or not to fluoridate drinking water. Provincial and territorial governments are primarily responsible for the safety of drinking water. In collaboration with their municipalities, they decide whether or not to fluoridate and the amount of fluoride to be added.

Petition 251, Question 2. Please provide a plan of action to secure the national resource of fresh water in this situation [where a province allows for the trade of bulk volumes of water to foreign nations].

Joint response from Environment Canada, Foreign Affairs and International Trade Canada, Natural Resources Canada. The federal government is confident that the 2001 amendments to the International Boundary Waters Treaty Act provides a high level of protection to Canada's water resources within our defined responsibilities. In response to concerns expressed by Canadians, the provinces and territories have also adopted statutes, regulations or policies that prohibit bulk water removal for the purposes of export from provincial and territorial waters. This coordinated inter-jurisdictional approach protects Canada's water resources while fulfilling our international trade obligations. The Government of Canada is committed to further working with our provincial and territorial partners to ensure that there are continued clear and effective provincial prohibitions on bulk water removals or exports.

Furthermore, Ontario, Quebec, and the eight Great Lakes states are parties to the Great Lakes St-Lawrence River Basin Sustainable Water Resources Agreement which outlines the principles for management of the Great Lakes. The agreement includes a ban on bulk water diversions out of the basin with rare exceptions agreed to by all parties. The Agreement complements Canadian federal protections that prohibit the bulk removal of water from the Canadian portion of the Great Lakes basin for any reason.

Exhibit 4.4 Examples of petitioner questions with responses received this year (Continued)

Response		
Environment Canada's response. Revenues from the sale of migratory game bird hunting permits are not used to finance the Canadian Wildlife Service. Revenues from the sale of the hunting stamps (\$8.50) required to validate migratory game bird hunting permits are directed to Wildlife Habitat Canada; this organization uses these funds to finance various environmental projects, particularly habitat protection projects. Revenues from the sale of permits (\$8.50) are allocated to permit and stamp printing, management of the sales network (which involves Canada Post), and overall management of permit issuance activities.		
Fisheries and Oceans Canada's response. The Province of BC is the authority responsible for approving flood mitigation activities, such as gravel removal. The proposal to remove gravel from Spring Bar was brought forward to DFO as part of the Province of BC's strategic flood mitigation strategy. Through an environmental assessment and the DFO Authorization process, appropriate mitigation measures were identified and implemented to minimize potential impacts on fish and fish habitat.		
Health Canada's response to the three questions. The Government of Canada's Communications Policy for public documents is to provide information in a format that is accessible for all users. Due to the size of the Human Health in a Changing Climate report and the difficulty that some Canadians could experience in accessing the document on the Internet (and in keeping with the Government of Canada's policy to make information accessible to all users), it was determined the best method of distribution would be to make the report available as a paper copy or on CD. When the report was released, the Government also made the report available (for a limited time) as a PDF upon request. In general, a PDF only format of the document does not meet the Government's policy of providing information on websites that is accessible to all users, as not all Canadians may have access to software that allows PDF documents to be downloaded and read. However, due to high demand from the Canadian public, the Government made an exception to its guidelines. Canadians can order a hard copy, a CD version, or a complete PDF version of the report by contacting Health Canada publications at the following: [contact information provided]		
Industry Canada's response. Publicly available licence information is available on Industry Canada's Spectrum Direct website at https://sd.ic.gc.ca. This website is updated daily to provide the most current information. One of the features of the website is a geographic search feature that permits search radii that can encompass all of Canada. You may be able to obtain the answer to the question being		

The full text of the petitions and responses can be found in the petitions catalogue on the Office's website (www.oag-bvg.gc.ca).

- 4.36 However, we identified some responses that did not meet our basic quality considerations. We follow up with departments when answers are missing or when petitioners express concerns similar to those that we find during our review. For example, this year we raised concerns about unanswered questions in several departmental responses, including the following:
 - Fisheries and Oceans Canada's response to petition 248,
 - Health Canada's responses to petitions 245 and 270, and
 - Industry Canada's response to petitions 255 and 255-B.
- 4.37 Based on the petitioner feedback that we received during the year, we also followed up with Health Canada about its responses to petitions 221-B and 221-C and with Environment Canada about its previous year's response to petition 228.
- 4.38 In most of these cases, departments were willing to consider ways to deal with the deficiencies, including informal follow-up with the petitioner and formal addenda to petition responses. However, we believe that the best approach to dealing with missing answers to questions or inaccurate information is to have a formal addendum signed by the Minister and to post it, along with the original response, on our website. This approach was taken by Fisheries and Oceans Canada, for petition 248, and by Environment Canada, for petition 228. Industry Canada has also indicated to us that it intends to use this approach to deal with the missing answers in petitions 255 and 255-B.
- 4.39 In our review of petition responses over the past year, we noted that missing answers were often associated with the practice of providing a single response for a group of questions. We accept that there are times when, in responding to petitions, it makes sense to group related questions. However, responding departments that take this approach need to pay particular attention to ensure that they answer all questions in the group.

Petitioners expressed frustration with the quality of responses

4.40 We recently implemented a feedback survey to determine petitioner views on departmental responses to petitions and on the petitions process itself. When this report was being prepared, we had not yet received enough responses to support a full statistical analysis. However, in 10 of 13 responses received to date, petitioners indicated that departments' explanations of why they disagreed with information or analysis contained in the petition were poor.

- **4.41** Through both unsolicited feedback and the survey, petitioners told us they were frustrated when they felt that responses did not mirror the depth of information in the petition. For example, some petitioners who had directed scientific or technical questions to Health Canada were dissatisfied with the level of detail provided in the answers.
- **4.42** When petitioners call or write to us with concerns about the quality of petition responses, we may recommend that they send the relevant minister(s) a letter (with a copy to us) describing their concerns. Petitioners also have the option of submitting a follow-up petition to obtain additional detail or to ask for information on other aspects of the issue.

Impact and relevance of petitions

- 4.43 Petitioners believe the government should act on their concerns. Previous petitions chapters contain examples of actions that were prompted or accelerated by petitions; but, in most cases, there is no clear, direct cause-and-effect relationship between petitions and specific actions. However, petitions can contribute to the momentum on an issue by
 - raising awareness about the issue and about public concerns related to the issue;
 - prompting interdepartmental exchanges on the issue;
 - creating a clearer public record of the government's views and position on the issue;
 - informing further action on the issue by the petitioner; and
 - informing audit planning.
- **4.44** Petitions often raise issues that are of broad public concern or that are emerging into public awareness. Some petitions of the past year have been covered in both the national and local news, including
 - concerns about health implications of electromagnetic radiation from cell phones and telecommunications towers (the subject of petitions 235-C and 255-B); and
 - the environmental impact of oil sands development (the subject of petition 263).

- 4.45 Moreover, specific petitions from the past year have been mentioned in the news, including
 - petition 272, which focused on a discharge of pesticides into an ecologically significant waterway following a fire at a pesticide plant; and
 - petition 278, which was related to the increased cost and time frame of an environmental review of the Mackenzie Valley gas pipeline project.
- **4.46** Recent audit work in our Office has also benefited from knowledge gained through petitions and responses. For example:
 - Our chapter on Protecting Fish Habitat (Chapter 1 of the 2009
 Spring Report of the Commissioner of the Environment and
 Sustainable Development) was informed by numerous petitions and
 responses from previous years, including petition 227 about letters
 of advice and operational statements and petition 135 about gravel
 removal from the Lower Fraser River in British Columbia.
 Petition 135 was also the subject of a case study in the chapter
 and received media attention following tabling.
 - Our chapter on Applying the Canadian Environmental Assessment Act (Chapter 1 of this Commissioner's report) was also informed by petitions—including the response to petition 263, which asked the federal government questions about the status of recommendations from joint panel reviews of oil sands projects.

Opportunities for improvement

- 4.47 Over the past year, we began to implement a strategy that was developed, in part, to respond to opportunities identified during our retrospective analysis of the petitions process, which we reported on in the October 2007 Report of the Commissioner of the Environment and Sustainable Development, Chapter 2, Environmental Petitions: Retrospective and Annual Report.
- **4.48** Our strategy includes the following objectives to enhance the effectiveness, integrity, and efficiency of the petitions process:
 - Provide better guidance and increase awareness of the petitions process.
 - Encourage clearer and more complete responses.
 - Encourage the consideration of issues raised in petitions and responses during audit planning.

The Office has taken steps to support better understanding of the petitions process

- 4.49 In December 2008, we published Getting Answers—A Guide to the Environmental Petitions Process. This publication, which is described in the Introduction, is a key element in our efforts to help potential petitioners understand the process and to prepare effective petitions. We used the launch of the guide as an opportunity to raise awareness about the petitions process; we also made a number of public presentations on the process throughout the year.
- 4.50 We have also worked with departments and agencies to
 - deal with their questions about the process;
 - · hear views on how we can best play our role; and
 - encourage clear, complete, and relevant responses.
- **4.51** The Treasury Board of Canada Secretariat coordinates an interdepartmental working group on petitions. This is a valuable forum for petitioned departments to share information and ideas about the process. We have offered our support for this initiative, used the forum to present information about our role and perspectives, and provided input for a question-and-answer fact sheet that the Secretariat prepared.
- 4.52 We sometimes receive questions from departments asking how a particular petition relates to environmental issues, which is the legislated focus of petitions. Each case is assessed individually. However, any activities, changes to infrastructure, or releases to the environment (chemical, physical, biological, or radiological releases) that may adversely affect the environment, including humans, are considered to be environmental issues. According to the Canadian Environmental Protection Act, 1999, "environment" includes
 - air, land, and water;
 - all layers of the atmosphere;
 - all organic and inorganic matter;
 - all living organisms; and
 - interacting natural systems.
- 4.53 According to the Auditor General Act, petitions must be about "an environmental matter in the context of sustainable development." As we note in our guide, the reference to sustainable development reinforces the link between environmental considerations and social and economic matters. Accordingly, petitions may cover a wide range

of subjects, including the effects on human health and the economy from releases to the environment or other forms of environmental degradation. It is part of the role of the Office of the Auditor General to ensure that accepted petitions reflect the focus on environmental issues, as required under the *Auditor General Act*. Ongoing discussions between the Office and departments assist the Office in this role.

Efforts to promote clear and complete responses are ongoing

- 4.54 In recent months, we have taken steps to further systematize our criteria and approach for reviewing responses as well as our relationships with departments. We have also implemented a feedback survey to find out what petitioners think of the quality of departmental responses. This work will be further reflected in next year's annual report.
- 4.55 Access to Information Act process (ATIP). Our interactions with departments and petitioners this year revealed uncertainties about the difference between the petitions process and the government's Access to Information Act process (ATIP). The petitions process can be used to ask for views, positions, and supporting documents, and to request that action be taken on issues. ATIP is intended as a means to obtain existing documents.
- 4.56 The government's Communication Policy states that institutions must ensure that "information requests or inquiries from the public are responded to promptly without undue recourse to the *Access to Information Act.*" It makes sense, therefore, for departments and agencies to provide documents with the petition response if doing so can answer questions or fulfill requests more completely.

Petitions and responses are being used to inform audit planning

4.57 The petitions process is one of the ways our Office stays abreast of environmental issues that are of concern to Canadians. The petitions team has begun to provide more in-depth input to other teams in the Office to help maximize the value of petitions as a source of information for audit planning.

Conclusion

- **4.58** The petitions process remains a unique way for Canadians to raise their environmental concerns to federal ministers. They can also use the process to obtain information and, in some cases, commitments to action.
- 4.59 While the number of petitions submitted by Canadians decreased this year, the range of topics was similar to last year. The percentage of on-time responses made by departments and agencies is continuing to decline—77 percent of responses were on time this year, compared with 86 percent last year.
- **4.60** The quality of responses is the key to realizing the value of the environmental petitions process. While petitioners have a role to play, that is, submitting petitions that are clear, concise, and well researched; departments have a responsibility to provide complete and relevant responses.
- 4.61 We will continue to work to promote responses that consistently meet basic quality criteria. We will also continue to take information from petitions and responses into account in our audit planning. These actions, among others, are designed to help petitions play their part in influencing federal management of environmental issues.

About the Chapter

Objective

The objective of this chapter is to inform Parliament and Canadians about the use of the petitions process. In accordance with sections 22 and 23 of the *Auditor General Act*, the chapter describes the number, nature, and status of petitions received, and the timeliness of responses from ministers.

Scope and approach

The annual report on petitions summarizes monitoring of the petitions process by the Commissioner of the Environment and Sustainable Development within the Office of the Auditor General of Canada. It covers the period from 1 July 2008 to 30 June 2009. The Appendix provides summaries of the petitions received during this reporting period.

Work completed

The work for this chapter was substantially completed on 15 July 2009.

Audit team

Principals: Andrew Ferguson and Paul Morse

Director: David Willey

Rebecca Aird Hélène Charest Lyane Maisonneuve Josée Perrier Erin Windatt

For information, please contact Communications at 613-995-3708 or 1-888-761-5953 (toll-free).

Appendix Petitions activity (1 July 2008 to 30 June 2009)

This appendix includes a summary of the petitions (follow-up and new issues) received during the activity period noted above. To access the full text of petitions and responses from December 1995 to 30 June 2009, go to the petitions catalogue on our website. If necessary, paper copies of the catalogue can be obtained on request.

Petition No. 262: Bioaccumulation assessment criteria related to the regulation of fireretardant chemicals

Date received: 16 July 2008

Petitioner: Mary Lou McDonald

Summary: The petitioner is concerned that the assessment criteria in the Persistence and Bioaccumulation Regulations do not adequately measure the bioaccumulation effects of certain fire-retardant chemicals, such as decabromodiphenyl ether (decaBDE). The petitioner asks the federal government to modify the regulations to test exposure through water, food, and air. The petitioner also requests that the federal government recommend a ban on decaBDE under the *Canadian Environmental Protection Act*, since the petitioner alleges that it has already been demonstrated that decaBDE is persistent, toxic, and bioaccumulative.

Issues: Human health/environmental health, and toxic substances

Federal departments/agencies replying: Environment Canada, Health Canada

Status: Completed

Petition No. 255B: Potential impact on human health of electromagnetic radiation emanating from telecommunication towers on Triangle Mountain, British Columbia

Date received: 21 July 2008

Petitioners: Dennis E. Noble and Sharon L. Noble

Summary: The petitioners allege that residents in the Triangle Mountain area of Colwood, British Columbia are being exposed to a high level of electromagnetic radiation emanating from telecommunication towers on the mountain. The petitioners request that the towers be moved to a non-residential site. They also raise questions about the monitoring of the field strength of the transmitter.

Issues: Compliance and enforcement, governance, human health/environmental health, science and technology, and other

Federal departments/agencies replying: Health Canada, Industry Canada

Status: Completed

Petition No. 263: Status of recommendations in joint panel reviews of oil sands

Date received: 6 August 2008

Petitioner: Environmental Defence Canada

Summary: The petitioner seeks information from federal departments and agencies on the status of their

follow-up action on recommendations in several joint panel reviews of oil sands.

Issues: Compliance and enforcement, and environmental assessment

Federal departments/agencies replying: Environment Canada, Fisheries and Oceans Canada, Health Canada, Natural Resources Canada, Transport Canada

Status: Completed

Petition No. 264: Environmental information in the "application for licence" to install a cellular tower in Simcoe, Ontario

Date received: 19 August 2008

Petitioners: Frank Woodcock and Geoffrey Saldanha

Summary: The petitioners question how Industry Canada verified the accuracy of environmental information in the "application for licence" to install a cellular tower in Simcoe, Ontario. They are concerned that the processes for application, attestation, and construction are self-regulated by the applicant.

Issues: Compliance and enforcement, human health/environmental health, and science and technology

Federal departments/agencies replying: Industry Canada

Status: Completed

Petition No. 240B: Follow-up petition on environmental concerns regarding the Cacouna Marsh

Date received: 28 August 2008 Petitioner: Gérard Michaud

Summary: The petitioner is following up on the responses received from Transport Canada and Environment Canada to petition number 240. This follow-up seeks clarification regarding the current classification of the marsh and a definition for the phrase "conflicts of use."

Issues: Biological diversity, environmental assessment, other, and water

Federal departments/agencies replying: Environment Canada, Transport Canada

Status: Completed

Petition No. 265: Hunting safety in the Cacouna Marsh

Date received: 2 September 2008

Petitioner: Gérard Michaud

Summary: The petitioner would like hunting activities in the Cacouna Marsh to be more closely monitored. Among other things, the petitioner would also like the Government of Canada to prohibit hunting near bird watching areas, and by certain ponds and pedestrian areas to ensure pedestrian safety. The petitioner would also like no-hunting signs to be more visible.

Issues: Compliance and enforcement, and human health/environmental health

Federal departments/agencies replying: Environment Canada

Status: Completed

Petition No. 266: Gravel removal in the lower Fraser River, British Columbia

Date received: 2 October 2008

Petitioner: Dr. Marvin L. Rosenau

Summary: The petitioner alleges that large-scale gravel removal near Seabird Island in the lower Fraser River has damaged fish habitat, with little or no increase in flood protection. The petitioner asks Fisheries and Oceans Canada several questions, including why its approval of this project ignores commitments made in response to a 2004 petition. The petitioner suggests that the project may contravene the intent of the *Fisheries Act* as well as requirements of the *Canadian Environmental Assessment Act*.

Issues: Aboriginal affairs, biological diversity, environmental assessment, fisheries, and natural resources

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 267: Impact of siltation on fish and fish habitat in Pomquet, Nova Scotia

Date received: 8 October 2008 Petitioner: Robert P. Bancroft

Summary: The petitioner alleges that clear-cutting operations on a woodlot near a brook in Pomquet, Nova Scotia is contributing to increased siltation. The petitioner is concerned that this siltation is having a negative impact on fish and fish habitat, in contravention of the *Fisheries Act*. The petitioner asks questions about the investigations that Fisheries and Oceans Canada did in 2007.

Issues: Compliance and enforcement, environmental assessment, fisheries, and water

Federal departments/agencies replying: Fisheries and Oceans Canada

Status: Completed

Petition No. 268: Request to withdraw the registration of neurotoxic pesticides in Canada

Date received: 28 October 2008

Petitioner: Ann V. Kuczerpa

Summary: The petitioner is concerned about the possible neurological health effects of pesticides and requests that the federal government withdraw the registration of neurotoxic pesticides. The petitioner cites many scientific studies that, according to the petitioner, show neurotoxic pesticides to be harmful.

Issues: Compliance and enforcement, human health/environmental health, pesticides, and toxic substances

Federal departments/agencies replying: Agriculture and Agri-Food Canada, Environment Canada, Health Canada, Department of Justice Canada

Status: Completed

Petition No. 269: Environmental concerns related to proposed expansion of the Marmot Basin Ski Area in Jasper National Park, Alberta

Date received: 28 November 2008

Petitioners: Jasper Environmental Association, UTSB Research and Bow Valley Naturalists,

Summary: The petitioners are concerned about the potential environmental impact that the proposed expansion of the Marmot Basin Ski Area in Jasper National Park could have on an adjacent wilderness area. They ask that Parks Canada revisit its decision to approve the Marmot Basin Site Guidelines for Development and Use and raise questions related to the environmental studies underlying this decision, such as those related to species at risk in this area.

Issues: Biological diversity, compliance and enforcement, and environmental assessment

Federal departments/agencies replying: Environment Canada, Parks Canada Agency

Status: Completed

Petition No 270: Publication practices related to reports on the health impacts of climate change

Date received: 19 January 2009

Petitioner: Pierre Gosselin

Summary: The petitioner is concerned that Health Canada's study entitled *Human Health in a Changing Climate*: A Canadian Assessment of Vulnerabilities and Adaptive Capacity is not directly available on the Department's website. The petitioner believes that this is an important report on the health of Canadians and asks Health Canada whether this decision complies with federal government publication policies.

Issues: Climate change, compliance and enforcement, human health/environmental health, and other

Federal departments/agencies replying: Health Canada

Status: Completed

Petition No. 271: Health and safety studies related to the lights used in barcode readers

Date received: 28 January 2009 Petitioner: A Canadian resident

Summary: The petitioner asks the government to provide information on health and safety studies related to the lights used in barcode readers.

Issues: Human health/environmental health and science and technology

Federal departments/agencies replying: Health Canada

Status: Completed

Additional Information: The full petition and responses will not be published at the petitioner's request.

Petition No. 235C: Follow-up petition on the health risks posed by electromagnetic radiation

Date received: 11 February 2009

Petitioner: Frank Woodcock

Summary: In this follow-up petition, the petitioner asks Health Canada further questions on the studies cited as "weight of evidence" in response to a previous petition. The petitioner continues to raise concerns about alleged industry influence on electromagnetic radiation research. He also expresses continuing concern about Safety Code 6, the guidelines prepared by Health Canada governing electromagnetic radiation, and asks Health Canada about potential health effects of cellular phones, in addition to those related to thermal heating of tissue.

Issues: Human health/environmental health, and other Federal departments/agencies replying: Health Canada

Status: Completed

Additional Information: The full petition and responses will not be published at the discretion of the OAG.

Petition No. 272: Incident reporting related to a fire at a pesticide manufacturer

Date received: 5 March 2009

Petitioner: Kris Robinson

Summary: The petitioner is concerned about the adequacy of incident reporting related to a fire at a pesticide manufacturer in Dundas, Ontario. The petitioner claims that douse water contaminated with Malathion, Carbaryl and Diazinon entered Spencer Creek and Cootes Paradise Marsh, a Provincially Significant Class 1 Wetland, resulting in significant loss of living organisms. The petitioner asks the responsible departments to ensure that the appropriate registrants of these pesticides file an incident report as required by law. The petitioner also asks Health Canada to examine the continued registration of these pesticides.

Issues: Compliance and enforcement, fisheries, human health/environmental health, pesticides, and water

Federal departments/agencies replying: Environment Canada, Health Canada

Status: Completed

Petition No. 273: Creating buffer zones around national parks to protect Rocky Mountain wolf populations

Date received: 3 April 2009

Petitioner: Northern Lights Wildlife Wolf Centre

Summary: The petitioners are concerned about the federal government's policies and regulations regarding the protection of wolves living in and around national parks in the Central Rocky Mountains. They are asking the federal government to work with provincial governments to create 200-kilometre buffer zones around each national park with land use restrictions that aim to protect wolf populations and to reduce mortality rates. They allege that existing designated wilderness areas are too small to maintain a healthy wolf population and to effectively conserve biodiversity.

Issues: Biological diversity, and federal provincial relations

Federal departments/agencies replying: Environment Canada, Parks Canada

Status: Completed

Petition No. 274: Request for federal action to protect Canadians from vapour intrusion of CEPA Schedule 1 toxic substances into residences

Date received: 7 April 2009

Petitioner: Deborah Vitez

Summary: The petitioner is concerned that residential communities are inadequately protected from the risks of vapour intrusion of volatile organic compounds (VOCs), some of which are Schedule 1 toxic substances as described by the *Canadian Environmental Protection Act*, 1999 (CEPA). These vapours can percolate into structures and buildings from contaminated groundwater or soil. The petitioner focuses on the alleged health impacts related to a specific case of elevated trichloroethylene (TCE) levels in a residential area in Cambridge, Ontario. The petitioner asks the federal government about the currency of its standards, management, and scientific research for vapour intrusion of TCE and VOCs, and its impact on human health. The petitioner also requests federal action to initiate an online registry of contaminated sites, and to develop uniform indoor air quality standards and remedial guidance across Canada.

Issues: Air Quality, federal provincial relations, human health/environmental health, other, and toxic substances

Federal departments/agencies replying: Environment Canada, Health Canada, Public Health Agency of Canada

Status: Completed

Petition No. 275: Progress toward meeting drinking water quality standards on Indian reserves

Date received: 7 April 2009

Petitioner: Harry Swain

Summary: The petitioner is seeking information on the federal government's progress toward meeting drinking water quality and sewage treatment standards on Indian reserves.

Issues: Aboriginal affairs, compliance and enforcement, federal provincial relations, human health/environmental health, and water

Federal departments/agencies replying: Environment Canada, Health Canada, Indian and Northern Affairs Canada

Status: Reply (replies) pending

Petition No. 276: The use of manure that allegedly contains livestock antibiotics and its impact on human health and the environment

Date received: 23 April 2009 Petitioner: Frank Woodcock

Summary: The petitioner is concerned about the potential health impact of ingesting food crops that accumulate antibiotics from soils spread with livestock manure. The petitioner asks the federal government if it is aware of this situation and what it is doing to protect Canadians from involuntarily ingesting antibiotics from food crops, such as vegetables, that are grown with livestock manure.

Issues: Agriculture, human health/environmental health, and science and technology

Federal departments/agencies replying: Agriculture and Agri-Food Canada, Health Canada, Public Health Agency of Canada

Status: Reply (replies) pending

Petition No. 277: Impact on marine life and habitat from garbage compactor truck leachate draining into sewers and waterways

Date received: 15 May 2009

Petitioner: Bharbara Gudmundson

Summary: The petitioner is concerned about the potential impact on marine life and habitat resulting from garbage compactor truck leachate draining into sewers and waterways. The petitioner asks the federal government if it recognizes garbage leachate as a deleterious substance and, if so, what it is doing to deal with this issue.

Issues: Compliance and enforcement, fisheries, human health/environmental health, toxic substances, and water

Federal departments/agencies replying: Environment Canada

Status: Reply (replies) pending

Petition No. 278: Concerns about the Mackenzie Gas Project Joint Review Panel's funding and contractual arrangements

Date received: 5 June 2009 Petitioner: PermaFrost Media

Summary: The petitioners are concerned that the original budget and timeline for the Mackenzie Gas Project Joint Review Panel have been substantially exceeded. The Panel was set up in 2004 to review and report on the potential impacts of the Mackenzie Gas Project on the environment and lives of the people in the Mackenzie River Valley region of the Northwest Territories. The Project proposes to develop natural gas fields and deliver the natural gas to markets via a transportation pipeline. The petitioners are seeking answers to questions about the Panel's funding and contractual arrangements.

Issue: Environmental assessment

Federal departments/agencies replying: Environment Canada, Department of Finance Canada, Treasury Board of Canada Secretariat

Status: Reply (replies) pending

Petition No. 279: Policies and actions regarding after-hours lighting of federal government office buildings

Date received: 8 June 2009 Petitioner: Marc-André Roy

Summary: The petitioner is concerned about the wasted energy and greenhouse gas emissions related to the lighting of federal office buildings after general business work hours. He asks the federal government what policies and actions it has in place for the efficient use of lighting in its buildings, and about the potential cost this has on taxpayers and the environment.

Issues: Climate change and other

Federal departments/agencies replying: Environment Canada, Natural Resources Canada, Public Works and Government Services Canada, Treasury Board of Canada Secretariat

Status: Reply (replies) pending

Petition No. 280: Concerns about Canada's export of chrysotile asbestos and the delayed release of a report about its potential health impacts

Date received: 10 June 2009
Petitioner: Frank Woodcock

Summary: The petitioner asks why Health Canada delayed release of a report by a panel of international experts that he claims shows a relationship between chrysotile asbestos and lung cancer. The petitioner also questions why the federal government allows asbestos to be sold to other countries.

Issues: Human health/environmental health, international cooperation, toxic substances

Federal departments/agencies replying: Environment Canada, Foreign Affairs and International Trade Canada, Health Canada, Natural Resources Canada

Status: Reply (replies) pending

Petition No. 281: Federal role in ensuring the Government of Ontario's protection of fish habitat and water quality affected by mining exploration

Date received: 11 June 2009

Petitioners: John Kittle and Sheila King

Summary: The petitioners are concerned about the potential impacts on fish habitat, water quality, and human health related to mining exploration activities in Ontario, particularly in the Mississippi River watershed of Eastern Ontario. They ask Fisheries and Oceans Canada and Environment Canada to investigate whether the Government of Ontario is meeting its obligations to protect fish habitat and water quality under federal legislation as laid out in the 2007 Inter-Jurisdictional Compliance Protocol for Fish Habitat and Associated Water Quality.

Issues: Compliance and enforcement, federal provincial relations, governance, human health/environmental health, toxic substances, and water

Federal departments/agencies replying: Environment Canada, Fisheries and Oceans Canada

Status: Reply (replies) pending

Petition No. 282: Concerns about harmonization and enforcement of *Canadian Environmental Protection Act* (CEPA 1999) regulations governing transboundary movement of hazardous wastes

Date received: 15 June 2009

Petitioner: RPR Environmental Inc.

Summary: The petitioner raises general concerns about the regulation of transboundary hazardous waste disposal, and specific concerns related to compliance investigations at a particular facility. The petitioner asks Environment Canada to modify the Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations to correct an alleged inconsistency in reporting requirements between Canada and the United States, which the petitioner claims creates compliance issues for Canadian businesses.

Issues: Compliance and enforcement, international cooperation, toxic substances, transport, and waste management

Federal departments/agencies replying: Environment Canada

Status: Reply (replies) pending

Petition No. 283: Concerns about the regulation of the herbicide atrazine and its potential impact on amphibian populations

Date received: 22 June 2009 Petitioner: Frank Woodcock

Summary: The petitioner is concerned about Canada's regulation of the herbicide atrazine in light of a scientific study that, the petitioner claims, shows adverse effects on amphibian populations. The petitioner seeks information about the federal government's plans and activities to monitor and research the adverse effects of atrazine on amphibians. The petitioner asks how regulatory decisions are made, given that the objective of Health Canada's Pest Management Regulatory Agency is to prevent unacceptable risks to human health and the environment from the use of pesticides. The petitioner also asks if the Agency has made information publicly available on atrazine's adverse effects on the environment.

Issues: Biological diversity, human health/environmental health, international cooperation, and pesticides

Federal departments/agencies replying: Environment Canada, Health Canada

Status: Reply (replies) pending

Petition No. 284: Control of toxic substances in tobacco products

Date received: 24 June 2009
Petitioner: Gaston Hervieux

Summary: The petitioner questions the federal government about the control of toxic substances in tobacco products. He wonders about the steps taken to reduce the impacts on human health.

Issues: Human health/environmental health and toxic substances

Federal departments/agencies replying: Agriculture and Agri-Food Canada, Department of Finance Canada, Department of Justice Canada, Environment Canada, Health Canada, Public Health Agency of Canada

Status: Reply (replies) pending

Petition No. 285: Request for the federal government to waive court costs for environmental nongovernmental organizations that are acting in the public interest

Date received: 25 June 2009

Petitioner: Les Amis de la Rivière Kipawa

Summary: The petitioner has incurred court costs related to its filing in the Federal Court of Canada, and subsequently the Federal Court of Appeal, for a judicial review of the environmental assessment of a dam refurbishment on the Kipawa River at Laniel, Quebec. The petitioner claims that it was acting in the public interest. It asks that the Department of Justice waive the court costs not only in this case but also in future situations where environmental non-governmental organizations are acting in the public interest.

Issues: Environmental assessment, governance, other, and water

Federal departments/agencies replying: Department of Justice Canada

Status: Reply (replies) pending

Petition No. 286: Concerns about the potential environmental impacts of the Nanaimo airport expansion on Vancouver Island, British Columbia

Date received: 30 June 2009

Petitioner: Mid-Island Sustainability & Stewardship Initiative

Summary: The petitioner raises questions about alleged failings in the consultation and environmental assessment processes related to the expansion of the Nanaimo airport on Vancouver Island, British Columbia. The petitioner asks the federal government about what studies were done concerning the potential impact of the airport's development on the environment. The petitioner also asks that an environmental assessment be carried out so that both the short- and long-term impacts of this project are fully understood and addressed.

Issues: Environmental assessment, fisheries, human health/environmental health, transport, and water

Federal departments/agencies replying: Environment Canada, Fisheries and Oceans Canada, Health Canada, Transport Canada

Status: Reply (replies) pending

Report of the Commissioner of the Environment and Sustainable Development—Fall 2009

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